

HONDA

Power

Equipment

Owner's Manual

Rotary Mower

HRX217HMA

HRX217HXA



HONDA

HRX

*See page 62 for instructions on
setting up your Lawn Mower.*



WARNING:



The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Keep this owner's manual handy, so you can refer to it at any time. This owner's manual is considered a permanent part of the lawn mower and should remain with the lawn mower if resold.

The information and specifications included in this publication were in effect at the time of approval for printing. American Honda Motor Co., Inc. reserves the right, however, to discontinue or change specifications or design at any time without notice and without incurring any obligation whatever. No part of this publication may be reproduced without written permission.

INTRODUCTION

Congratulations on your selection of a Honda lawn mower! We are certain you will be pleased with your purchase of one of the finest lawn mowers on the market.

We want to help you get the best results from your new mower and to operate it safely. This manual contains the information on how to do that; please read it carefully.

As you read this manual, you will find information preceded by a **NOTICE** symbol. That information is intended to help you avoid damage to your mower, other property, or the environment.

We suggest you read the *Distributor's Limited Warranty* (page 75) and *Emission Control System Warranty* (page 78) to fully understand coverage and your responsibilities of ownership.

When your mower needs scheduled maintenance, keep in mind that an authorized Honda servicing dealer is specially trained in servicing Honda mowers and is supported by the parts and service divisions of American Honda. Your Honda dealer is dedicated to your satisfaction and will be pleased to answer your questions and concerns.

Best Wishes,
Power Equipment Division
American Honda Motor Co., Inc.

INTRODUCTION


A FEW WORDS ABOUT SAFETY

Your safety, and the safety of others, is very important. And using this lawn mower safely is an important responsibility.


To help you make informed decisions about safety, we have provided operating procedures and other information on labels and in this manual. This information alerts you to potential hazards that could hurt you or others.


Of course, it is not practical or possible to warn you about all the hazards associated with operating or maintaining a lawn mower. You must use your own good judgment.

You will find important safety information in a variety of forms including:

- **Safety Labels** — on the lawn mower.
- **Safety Messages** — preceded by a safety alert  symbol and one of three signal words: DANGER, WARNING, or CAUTION.

These signal words mean:

 DANGER	You WILL be KILLED or SERIOUSLY HURT if you don't follow instructions.
---	---

 WARNING	You CAN be KILLED or SERIOUSLY HURT if you don't follow instructions.
---	--

 CAUTION	You CAN be HURT if you don't follow instructions.
--	--

- **Safety Headings** — such as *IMPORTANT SAFETY REMINDERS* or *IMPORTANT SAFETY PRECAUTIONS*.
- **Safety Chapter** — such as *LAWN MOWER SAFETY*.
- **Instructions** — how to use this mower correctly and safely.

This entire book is filled with important safety information — please read it carefully.

CONTENTS

LAWN MOWER SAFETY	4
IMPORTANT SAFETY INFORMATION	4
IMPORTANT MESSAGE TO PARENTS	5
SAFETY LABEL LOCATIONS	6
CONTROLS & FEATURES	7
COMPONENT & CONTROL LOCATIONS	7
BEFORE OPERATION	12
ARE YOU READY TO GET STARTED?	12
IS YOUR LAWN MOWER READY TO GO?	12
CHECK YOUR WORK AREA	13
GET THE MOWER READY	14
OPERATION	20
MOWING PRECAUTIONS	20
STARTING THE ENGINE	20
OPERATING THE CONTROLS FOR MOWING	23
STOPPING THE ENGINE	26
SAFE MOWING PRACTICES	27
MOWING TIPS	29
SERVICING YOUR LAWN MOWER	32
THE IMPORTANCE OF MAINTENANCE	32
MAINTENANCE SAFETY	33
MAINTENANCE SCHEDULE	34
BLADES	35
GRASS BAG CLEANING AND REPLACEMENT	38
ENGINE MAINTENANCE	39
CONTROL CABLE ADJUSTMENTS	45
THROTTLE CABLE INSPECTION	47
FUEL SYSTEM	48
CHARGING THE BATTERY (HRX217HMA ONLY)	50
REPLACING THE FUSE (HRX217HMA ONLY)	52
STORAGE	53
STORAGE PREPARATION	53
PLACING IN STORAGE	58
REMOVING FROM STORAGE	58
TRANSPORTING	59
BEFORE LOADING	59
LOADING AND UNLOADING	59
TAKING CARE OF UNEXPECTED PROBLEMS	60
ENGINE WILL NOT START	60
LOSS OF POWER	60
VIBRATION	61
MOWING AND BAGGING PROBLEMS	61
SET-UP	62
BEFORE OPERATION	64
TECHNICAL & CONSUMER INFORMATION	65
TECHNICAL INFORMATION	65
EMISSION CONTROL SYSTEM	68
SPECIFICATIONS	71
CONSUMER INFORMATION	73
INDEX	81
QUICK REFERENCE INFORMATION	inside back cover

LAWN MOWER SAFETY

IMPORTANT SAFETY INFORMATION

Most accidents with walk-behind mowers can be prevented if you follow all instructions in this manual and on the mower. The most common hazards, according to accident statistics, are discussed below, along with the best way to protect yourself and others.

Avoid Rotating Blades

Rotating blades can cause serious cuts and even amputate fingers, hands, toes, or feet. Keep away from the mower deck whenever the engine is running. If you need to adjust the cutting height, or work around the deck for any other reason, always shut off the engine. Wear heavy gloves and disconnect the spark plug cap when you need to clean the mower deck or handle the blades.

Clear Mowing Area

Mower blades can throw rocks and other objects with enough force to cause serious injury. Before mowing, carefully inspect the area and remove all sticks, stones, pieces of wire, and other loose objects. Never operate the blades over gravel.

Keep Shields in Place

Guards and shields are designed to protect you from being hit by thrown objects and from hot engine parts and moving components. For your safety and the safety of others, keep all shields in place when the engine is running.

Refuel with Care

Gasoline is extremely flammable and gasoline vapor can explode. Refuel only outdoors, in a well-ventilated area, with the engine OFF. Never smoke near gasoline, and keep other flames and sparks away. Always store gasoline in an approved container.

Wear Protective Clothing

Wearing protective clothing will reduce your risk of injury. Long pants and eye protection reduce the risk of injuries from thrown objects. Sturdy shoes with aggressive soles will help protect your feet and give you better traction on slopes or uneven ground.

Turn Engine Off When Not Mowing

If you need to leave the mower for any reason, even just to inspect the lawn ahead, always turn the engine OFF.

IMPORTANT MESSAGE TO PARENTS

YOUR CHILDREN'S SAFETY IS VERY IMPORTANT to Honda. That's why we urge you to read this message before letting your child operate this lawn mower. Lawn mowers are tools, not toys. As with any equipment, bad judgments can result in serious injuries. You can help prevent accidents by making good decisions about if, when, and how your child operates this equipment.

The first question you'll need to ask is whether your child is capable of operating this mower safely. Remember, young people vary widely, and **AGE IS NOT THE ONLY FACTOR**.

Physically, a child must be **LARGE ENOUGH AND STRONG ENOUGH** to easily start the mower and control its direction. The child also needs enough size, strength, and coordination to comfortably reach and operate the controls.

Another, tougher question you need to ask is if your child has enough **MATURITY AND RESPONSIBILITY** to safely operate this mower. Does the young person think through problems and come to logical solutions? Be honest! Anyone who takes unnecessary risks and doesn't obey rules should not operate this lawn mower.

If you decide that your son or daughter can handle the mower safely, **CAREFULLY READ THE OWNER'S MANUAL** with your child. Make sure you both understand all instructions and safety information. Also, be sure your child wears sturdy shoes and other protective clothing when operating or handling the mower.

SUPERVISION is also very important. Walk with your child during the first few minutes of mowing. Even after he or she has become confident with the mower, do not let him or her use the mower without good adult supervision. An adult should also be present during refueling and maintenance. In fact, it's up to the adult owner to make sure that the mower is properly maintained and kept in safe operating condition.

By always placing safety first, your child will acquire useful skills and a sense of accomplishment. And you'll both get the best results from your lawn mower.


LAWN MOWER SAFETY

SAFETY LABEL LOCATIONS

These labels warn you of potential hazards that can cause serious injury. Read them carefully. If a label comes off or becomes hard to read, contact an authorized Honda servicing dealer for a replacement.

 **CAUTION**

UNDER NORMAL USAGE, THIS BAG MATERIAL IS SUBJECT TO DETERIORATION AND WEAR, AND SHOULD BE CHECKED FREQUENTLY FOR BAG REPLACEMENT. THIS BAG CONFORMS TO A.N.S.I STANDARD B711, ANY REPLACEMENT MUST MEET THIS STANDARD.

 **WARNING**

Objects thrown by blade can cause serious injury.

- Inspect area and remove debris before mowing.
- Keep children and others away.
- Wear eye protection.
- Follow all instructions in your Owner's Manual.

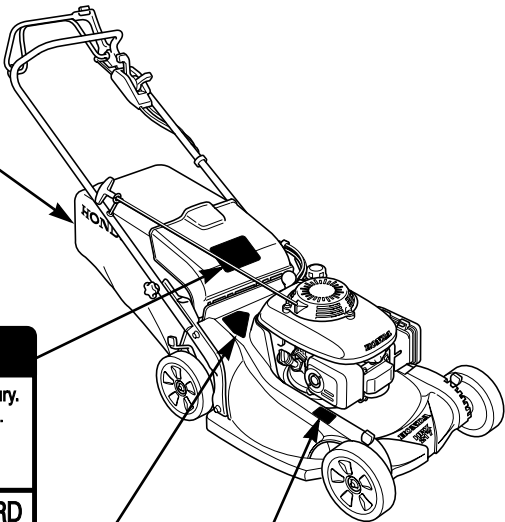
DO NOT OPERATE UNLESS GUARD IS CLOSED OR BAG IS IN PLACE

DANGER
KEEP HANDS and FEET AWAY



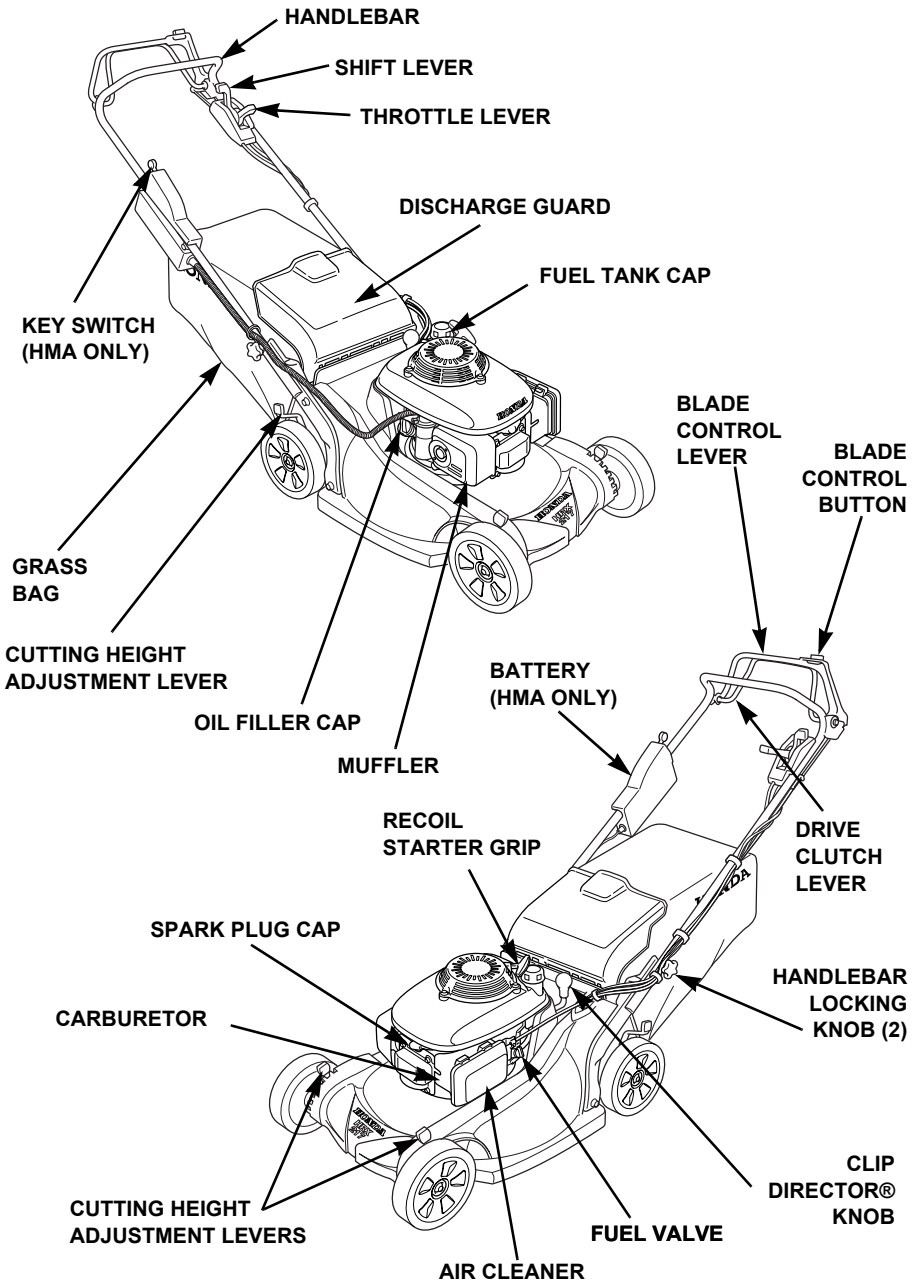
 **CAUTION**

HOT MUFFLER CAN BURN YOU.
Stay away if engine has been running.



CONTROLS & FEATURES

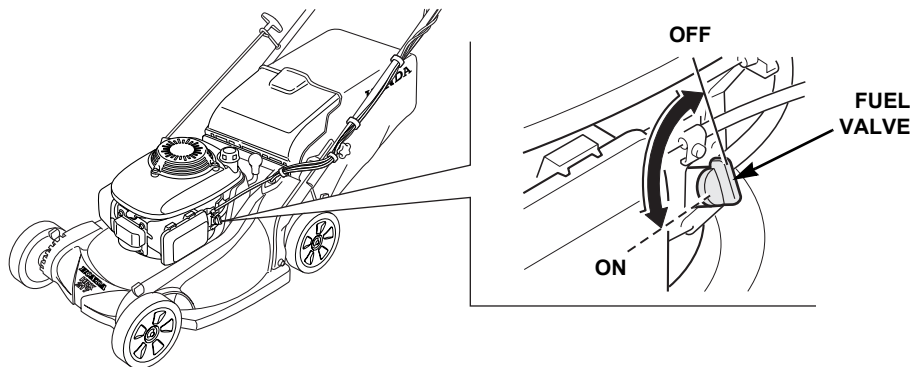
COMPONENT & CONTROL LOCATIONS



CONTROLS & FEATURES

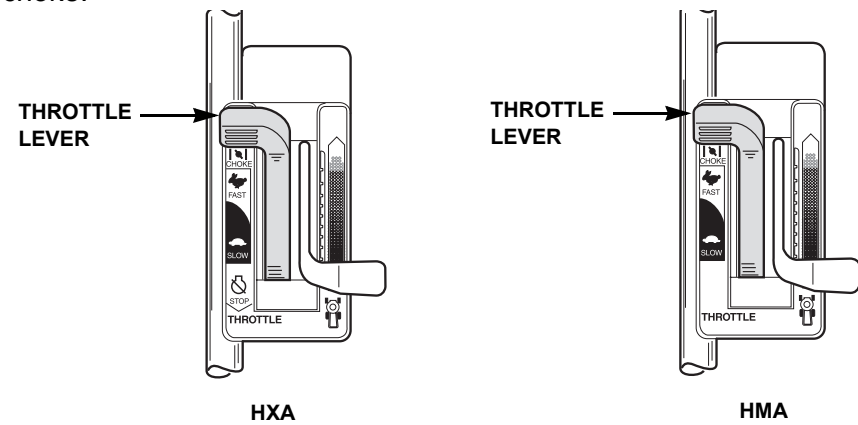
Fuel Valve





The fuel valve opens and closes the fuel passage from the fuel tank to the carburetor.



Throttle Lever

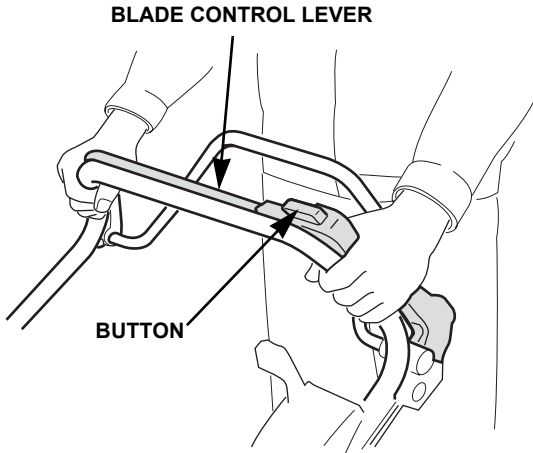
The throttle lever controls engine speed and opens and closes the choke.



-  **CHOKE** Closes the choke; use when starting a cold engine.
-  **FAST** For restarting a warm engine and for mowing.
-  **SLOW** For idling the engine.
-  **STOP** To stop the engine. (On the HRX217HMA, turn the key switch OFF to stop the engine.)

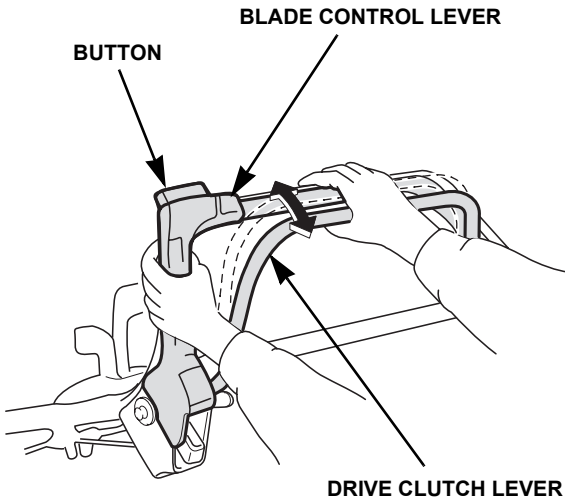
Blade Control Lever

The blade control lever starts and stops blade rotation.



Drive Clutch Lever

The drive clutch lever engages and disengages the transmission that drives the rear wheels.

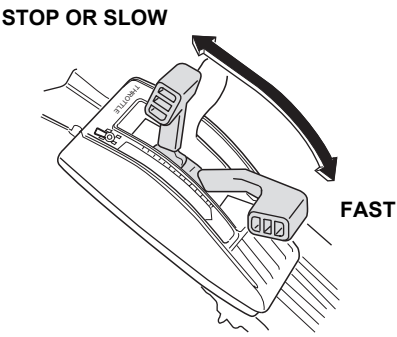


CONTROLS & FEATURES

Shift Lever

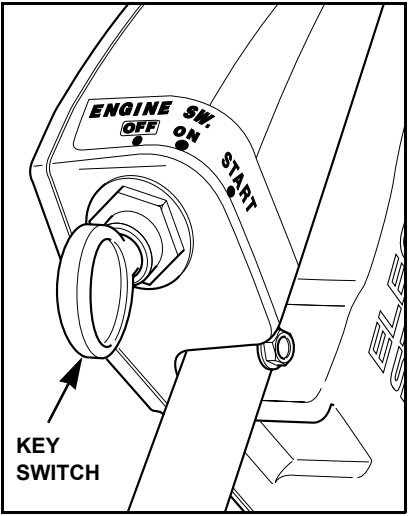
The shift lever selects and controls the self-propelled drive speed.

- STOP** With the shift lever all the way back and the drive clutch lever fully engaged, the mower will move very slowly or not at all.
- SLOW** Use a slow speed for mowing thick grass or maneuvering in small areas.
- FAST** For maximum self-propelled speed in large, open areas, and for transport.



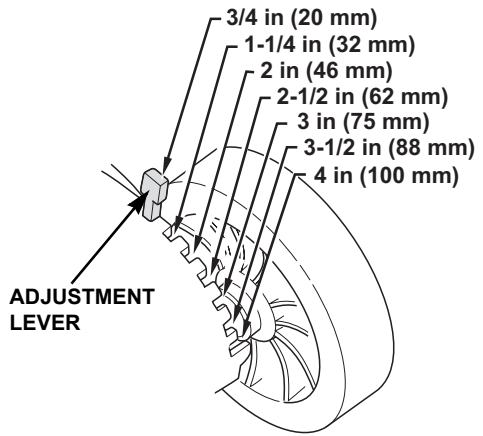
Engine Switch (HRX217HMA only)

- OFF** Stops the engine.
- ON** Running position (the key switch must be in the ON position to use the recoil starter).
- START** Operates the electric starter.



Cutting Height Adjustment Levers

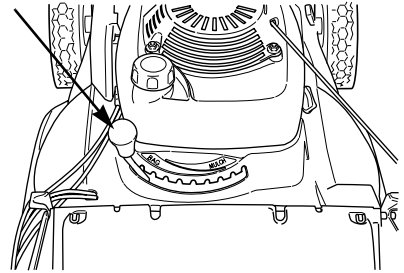
Each wheel of the mower can be adjusted to one of seven settings. The cutting height figures are approximate. The actual height of cut grass will vary with lawn and soil conditions.



Clip Director® Knob

Bagging, mulching, and rear discharge are controlled by this knob. The knob has ten adjustment positions.

CLIP DIRECTOR®
KNOB



BEFORE OPERATION

ARE YOU READY TO GET STARTED?

Your safety is your responsibility. A little time spent in preparation will significantly reduce your risk of injury.

Knowledge

Read and understand this manual. Know what the controls do and how to operate them.

Familiarize yourself with the lawn mower and its operation before you begin using it. Know how to quickly shut off the lawn mower in case of an emergency.

IS YOUR LAWN MOWER READY TO GO?

For your safety, and to maximize the service life of your lawn mower, it is very important to take a few moments before you operate the lawn mower to check its condition. Be sure to take care of any problem you find, or have your servicing dealer correct it, before you operate the lawn mower.

WARNING

Improperly maintaining this lawn mower, or failing to correct a problem before operation, could cause a malfunction in which you could be seriously injured.

Always perform a pre-operation inspection before each operation, and correct any problem.

Before beginning your pre-operation checks, be sure the lawn mower is on a level surface.

Check the General Condition of the Lawn Mower:

- Look around and underneath the lawn mower for signs of oil or gasoline leaks.
- Look for signs of damage.
- Check each control for proper operation.
- Check the blades for wear. Replace as necessary (page 36). Check that the blade bolts are tight (page 37).
- Check that all nuts, bolts, screws are tightened.

Check the Engine

- Check the air cleaner (page 41) and oil level (page 39).
- Check the fuel level (page 48). Starting with a full tank will help to eliminate or reduce operating interruptions for refueling.

CHECK YOUR WORK AREA

For your safety and the safety of others, always inspect the area before operating the lawn mower.

Objects

Anything which can be picked up by the blades and thrown is a potential hazard to you and others. Look for things like stones, sticks, nails, and wire, and remove them from the work area.

People and Pets

People and animals near the work area can move into your lawn mower's path or into a position where they could be struck by thrown objects. Clear the area of pets and people, especially children. Their safety is your responsibility.

Work Area

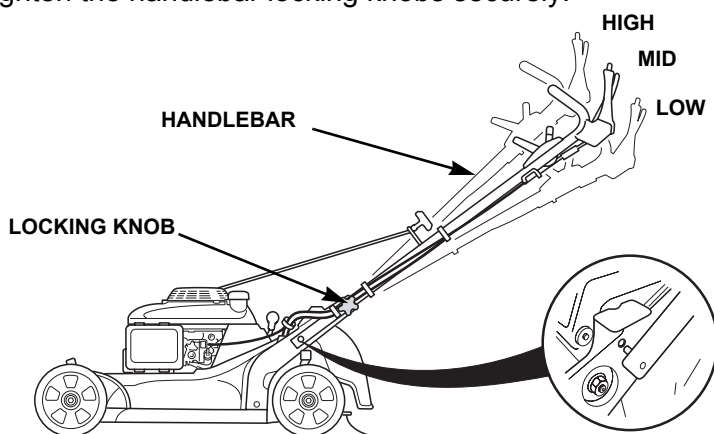
Check the condition of the grass. Adjust your lawn mower ground speed and mowing swath accordingly.

BEFORE OPERATION

GET THE MOWER READY

Handlebar Height Adjustment

1. Adjust handlebar height for a comfortable operating position.
2. Loosen the handlebar locking knobs. Spread the lower ends of the handlebar to release the locating pins.
3. Move the handlebar up or down, so the locating pins engage other holes on the handlebar mounting brackets.
4. Tighten the handlebar locking knobs securely.



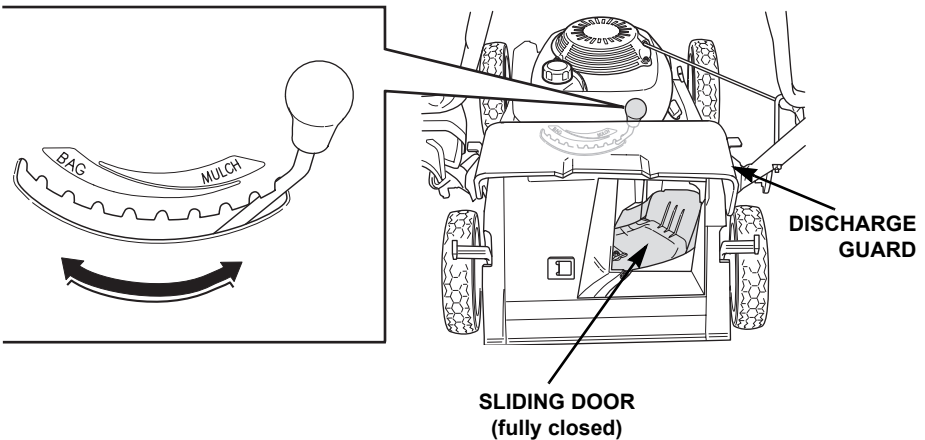
Clip Direction

Clip Director Knob Adjustment

Adjust the clip director knob in any one of the ten positions to achieve the desired mowing results.

To adjust the clip director knob, pull the knob downward and towards the rear of the mower. The knob adjusts a sliding door from the fully open BAG position to the fully closed MULCH position (see the following page).

CLIP DIRECTOR KNOB



Some grass accumulation in the discharge opening is normal when the clip director is fully closed. To remove this grass, fully open the clip director, start the engine, and engage the blade control lever several times.

If a high resistance is noticed when moving the clip director knob from side-to-side, excessive grass may have built up on top of the sliding door.

IMPORTANT SAFETY PRECAUTION

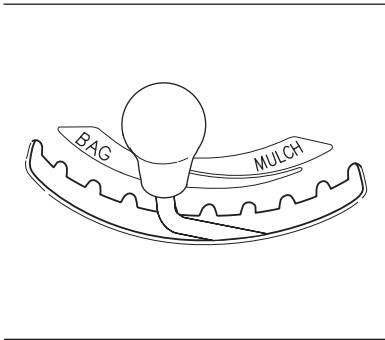
Always turn the engine off, remove the key (HRX217HMA only) and disconnect the spark plug cap (see page 42) before lifting the discharge guard to view or clean around the sliding door. This will prevent contact with the rotating blades and prevent objects from being thrown into the discharge area.

BEFORE OPERATION

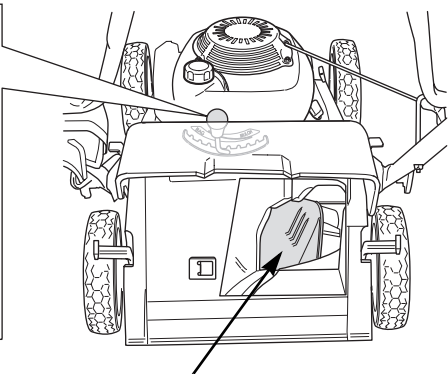
Sliding Door Position

The sliding door can be positioned to produce different mowing results. If the preferred sliding door position is unknown, install a grass bag and begin mowing with the clip director knob all the way to the BAG position. Check the appearance of the lawn. As the knob is moved towards the MULCH position, more grass will be recycled back into the lawn. Adjust the clip director knob until the desired result is achieved.

CLIP DIRECTOR KNOB



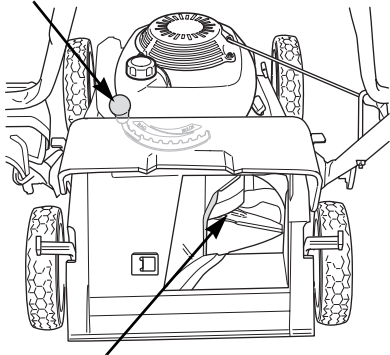
BAGGING OR REAR DISCHARGE
AND SOME MULCHING



SLIDING DOOR
(50% open)

FULL BAGGING OR REAR DISCHARGE

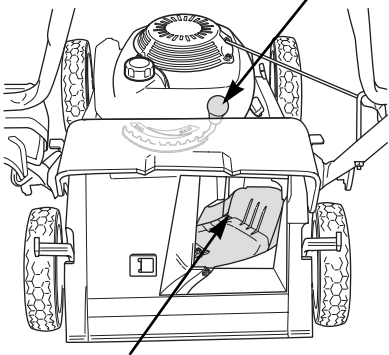
KNOB
(BAG position)



SLIDING DOOR
(fully open)

FULL MULCHING

KNOB
(MULCH position)

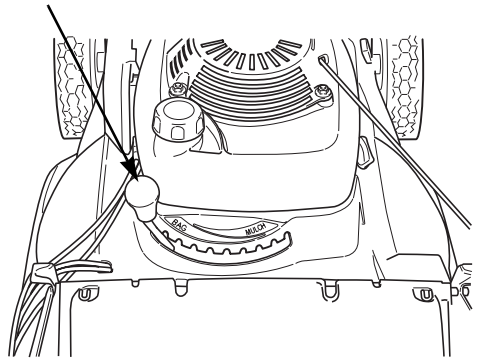


SLIDING DOOR
(fully closed)

Rear Discharge

To discharge clippings to the rear, remove the grass bag and position the clip director knob in the BAG range.

**CLIP DIRECTOR
KNOB**



Maximum rear discharge will occur when the clip director knob is all the way to the left (BAG) position. As the clip director knob is moved toward the right (MULCH) position, less grass will be discharged through the rear discharge guard.



BEFORE OPERATION

Grass Bag

A lawn mower works like a vacuum cleaner; it blows air through the bag, which traps the grass clippings. Always empty the grass bag before it becomes filled to the limit of its capacity. Bagging performance will diminish after the bag becomes about 90% filled. Also, the bag is easier to empty when it is not packed full.

The grass bag can be left on the mower during mowing, then depending on conditions, certain areas may require full mulching where as other areas may require bagging. By adjusting the clip director knob, various mowing conditions can be met.

Inspection

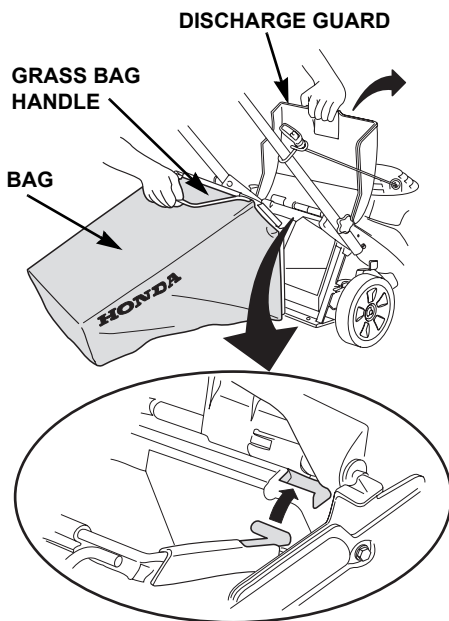
Inspect the grass bag for tears, holes, and excessive wear. The grass bag wears during normal use and will eventually require replacement. Grass bag replacement is explained on page 38.

Installation

1. Raise the discharge guard and hook the grass bag onto the mower deck as shown.
2. Release the discharge guard to secure the grass bag.

Removal

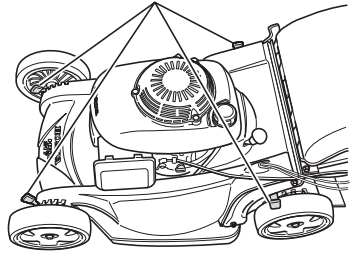
1. Raise the discharge guard, grasp the grass bag handle and remove the grass bag.
2. Release the discharge guard.
3. When the grass bag is clear of the discharge guard, you can lift it through the handlebar opening, or you can remove it to the rear of the mower below the handlebar.



Cutting Height

Move all four adjustment levers to the same position.

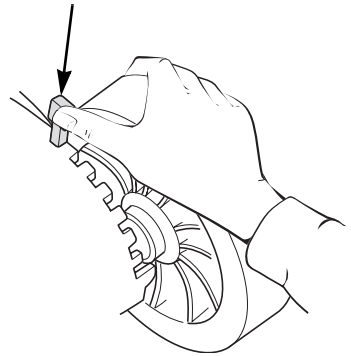
ADJUSTMENT LEVERS



To adjust cutting height, pull each adjustment lever toward the wheel, and move it into another notch.

If you are not sure what cutting height to select, start with a high setting and check the appearance of the lawn after mowing a small area. Then readjust cutting height if necessary.

ADJUSTMENT LEVER



OPERATION

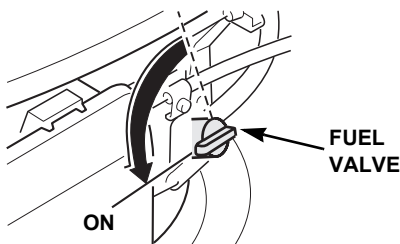
MOWING PRECAUTIONS

Before operating the mower for the first time, please review *IMPORTANT SAFETY INFORMATION* (page 4) and the previous chapter, *BEFORE OPERATION* (page 12). Even if you have operated other mowers, take time to become familiar with how this mower works and practice in a safe area until you build up your skills. For your safety, avoid starting or operating the engine in an enclosed area such as a garage. Your mower's exhaust contains poisonous carbon monoxide gas which can collect rapidly in an enclosed area and cause illness or death.

STARTING THE ENGINE

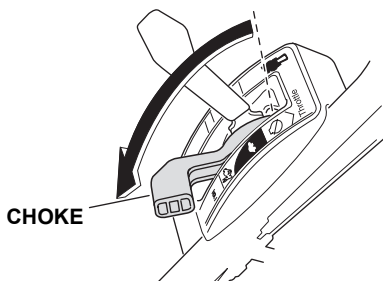
Before starting, always release the drive clutch lever, so the mower will not move forward when you operate the starter.

1. Turn the fuel valve to the ON position.
2. Move the throttle lever to the proper starting position.



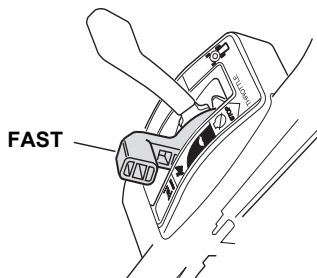
COLD ENGINE:

Move the throttle lever to the CHOKE position.



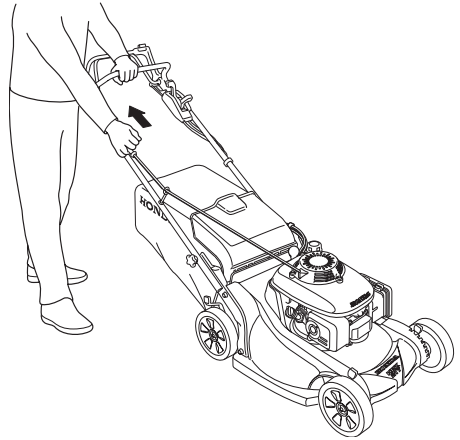
WARM ENGINE:

Move the throttle lever to the FAST position.



3. Model HRX217HXA:

Pull the starter grip lightly until you feel resistance, then pull briskly. Return the starter grip gently.

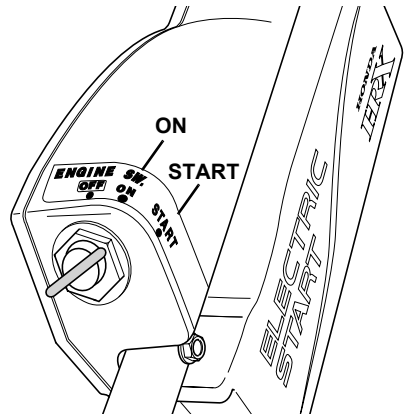


Model HRX217HMA:

Electric start

Turn the key switch to the START position and hold it there until the engine starts.

When the engine starts, allow the key switch to return to the ON position.



NOTICE

Do not use the starter for more than 5 seconds or starter motor damage may occur. If the engine fails to start, release the switch and wait 10 seconds before operating the starter again.

When the engine starts, release the key switch and allow it to return to the ON position.

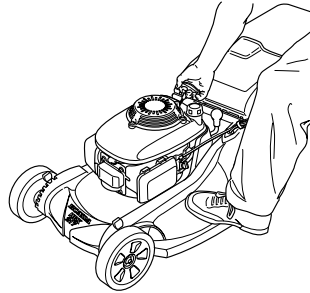
OPERATION

Model HRX217HMA:

Manual start

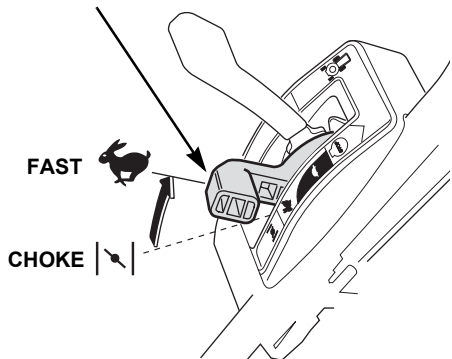
Turn the engine switch ON. The engine switch must be in the ON position to start the engine with the recoil starter.

Place your foot on the mower deck step. Pull the starter grip lightly until you feel resistance, then pull briskly. Return the starter grip gently.



4. If the CHOKE position was used during starting, move the throttle lever away from the CHOKE position as soon as the engine warms up enough to run smoothly without using the choke. Set the throttle lever at FAST to mow or at SLOW to idle.

THROTTLE LEVER

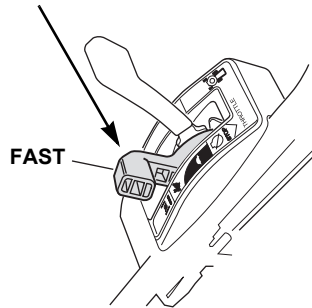


OPERATING THE CONTROLS FOR MOWING

Throttle Lever

For best cut quality, always mow with the throttle lever in the FAST position. When the blades rotate at the preset fast speed, it creates a strong fan action that lifts and cuts grass more efficiently. Do not try to increase the preset engine speed; the blade could fracture and come apart.

THROTTLE LEVER



Blade Control Lever

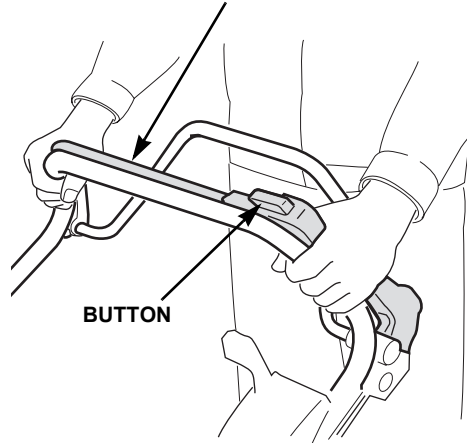
To start blade rotation, press the button on top of the blade control lever, then push the lever forward quickly and hold it against the handlebar.

Release the blade control lever to stop the blades.

Operate the blade control lever with a quick and complete motion, so the blade control is always either fully engaged or stopped. This will help to prevent stalling the engine, and it will also extend the service life of the blade control mechanism.

Always release the blade control lever before starting the engine to prevent the blades from turning.

BLADE CONTROL LEVER



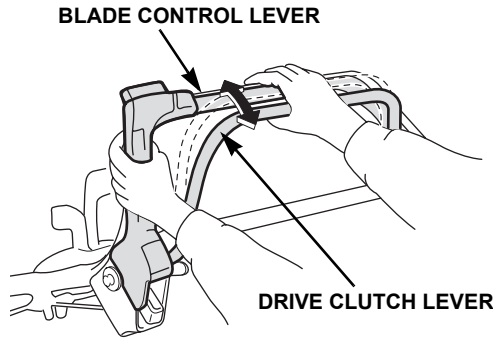
BUTTON

OPERATION

Drive Clutch Lever

Push the drive clutch lever forward to propel the mower.

Release the drive clutch lever to stop the mower's forward movement.



You can control the self-propelled speed with the drive clutch lever. The mower will move gradually faster as you push the drive clutch lever forward. If you push the lever all the way forward to the handlebar, the mower will move at the speed determined by the shift lever setting (page 25).

When moving and using the drive clutch lever to change self-propelled speed, continue to fully hold the blade control lever against the handlebar. This will help prevent damage to the blade control mechanism. Use the shift lever (page 25) to change the maximum speed so you can hold the drive clutch lever comfortably against the handlebar.

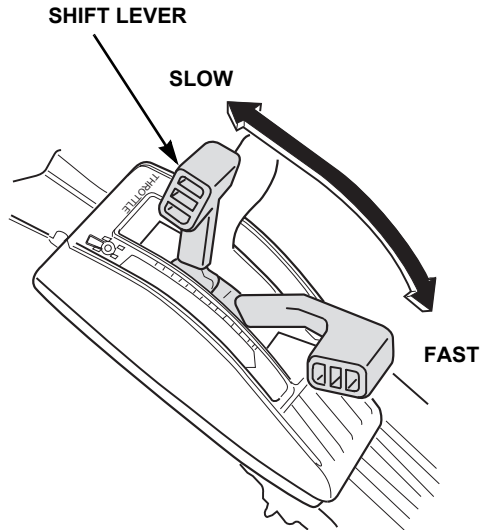
For self-propelled mowing, press the button on top of the blade control lever, push the blade control lever completely forward, then push the drive clutch lever forward. The drive clutch lever can be used to hold the blade control lever against the handlebar.

Always release the drive clutch lever before starting the engine. If the drive clutch is engaged, the mower will move forward when you operate the starter.

Shift Lever

Use the shift lever to select the forward speed at which you wish to mow.

Do not use the throttle lever to adjust your forward speed. The throttle lever must remain in the FAST position for good mowing performance. Otherwise, cut quality suffers.



The position of the shift lever determines the maximum ground speed when the drive clutch lever is fully engaged.

For maximum mowing performance, use the lower speed range for mowing and the higher speed range for transporting.

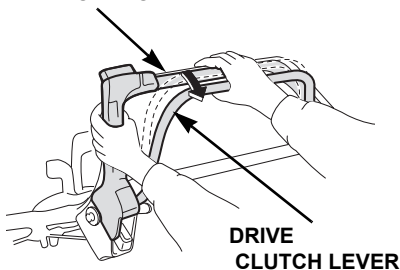
With the shift lever all the way back and the drive clutch lever engaged, the mower will move slowly or not at all.

OPERATION

STOPPING THE ENGINE

1. Release the drive clutch and blade control levers.

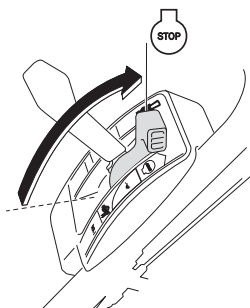
BLADE CONTROL LEVER



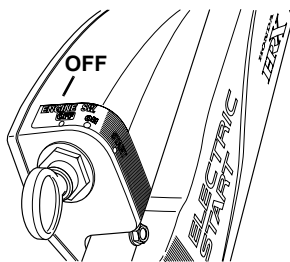
**DRIVE
CLUTCH LEVER**

2. On the HRX217HXA model, move the throttle lever to STOP.

On HRX217HMA model, turn the key switch to the OFF position.

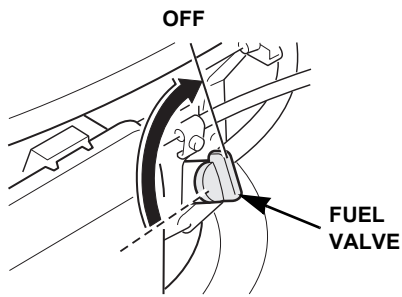


HRX217HXA MODEL



HRX217HMA MODEL

3. When the mower is not in use, turn the fuel valve to the OFF position.



**FUEL
VALVE**

SAFE MOWING PRACTICES

For your safety, keep all four wheels on the ground, and be careful to avoid losing your footing and your control of the mower. Keep a firm grip on the handlebar, and walk, never run, with the mower. Be very careful when mowing uneven or rough ground.

If stuck, do not kick or shove the mower with your foot. Use the handlebar to control the mower.

WARNING

The blade is sharp and spins at high speed.

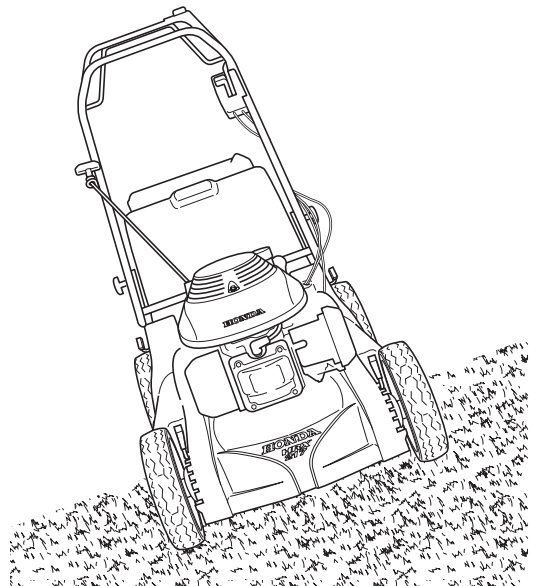
A spinning blade can cut you severely and can amputate fingers and toes.

- Wear protective footwear.
- Keep your hands and feet away from the mower deck while the engine is running.
- Stop the engine before performing any adjustment, inspection, or maintenance.

Slopes

Mow across slopes, not up and down. Avoid steep slopes (more than 20°), and be careful when changing direction.

Mowing on a slope when the grass is damp or wet could cause you to slip, fall, and lose control of the mower.



OPERATION

Obstacles

Use the side of the mower to cut close to large obstacles, such as fences or walls.

Release the drive clutch lever to disengage the drive when mowing around trees and other obstacles. Push the mower around obstacles for better directional control. Be careful when mowing over obstacles embedded in the lawn, such as sprinkler heads, paving, edging, raised tree roots, etc. Avoid anything that sticks up above the surface of the lawn.

If the blade hits something, or if the mower starts to vibrate, stop the engine immediately, disconnect the spark plug cap, and check for damage (page 35). Striking objects may damage the blades, bend the crankshaft, and/or break the mower deck or other components. Vibration usually indicates serious trouble.

The *Distributor's Limited Warranty* (page 75) does not cover parts damaged by accident or collision.

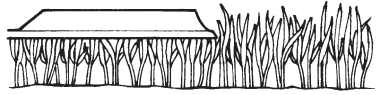
Gravel and Loose Objects

Gravel, loose stones, and landscaping material can be picked up by the mower and thrown many feet with enough force to cause serious personal injury and/or property damage. The best way to prevent potential injury from thrown objects is to release the blade control lever to stop the blades before reaching areas with gravel, loose stones, or landscaping material.

MOWING TIPS

When to Mow

Most grasses should be mowed when they have grown 1/2 to 1 inch above their recommended height.



More frequent mowing is required for mulching than for bagging. For best results, you may need to mow the lawn twice a week during the growing season.

Cutting Height

Consult a local nursery or lawn and garden center for cutting height recommendations and advice about specific types of grasses and growing conditions in your area.



If you look closely, you'll see that most grass has stems and leaves. If you cut off the leaves, you'll scalp the lawn. Let the grass recover between mowings. Your mower will work better, and your lawn will look better.



If your grass gets too tall, cut it once at the highest cutting height setting, then mow again in 2 or 3 days. Don't take off more than one third of total grass height in any one mowing, or brown patches may develop.

Cutting height adjustment is explained on page 19.

Cutting Width

For an even lawn finish, overlap each mowing swath by a few inches. If the grass is very tall or thick, use more overlap and a narrower mowing swath.

Blade Speed

The blade must spin very fast to cut properly. Always use the FAST throttle setting, and keep the engine running at maximum rpm.

If engine speed drops, it could mean the engine is being overloaded by the blade trying to cut too much grass. Mow a narrower swath, move the mower slower, raise the cutting height, or move the clip director knob toward the BAG position.

OPERATION

Blade Sharpness

A sharp blade cuts cleanly. A dull blade tears the grass, leaving shredded ends that turn brown. When your blade doesn't cut cleanly anymore, have it sharpened or replaced.

Dry Grass

If the ground is too dry, mowing will stir up a lot of dust. Besides being unpleasant to work in, too much dust will clog the air filter. If dust is a problem, water your lawn the day before mowing. Mow when the grass is dry to your touch, but the soil is still moist.

Wet Grass

Wet grass is slippery and can make you lose your footing. Also, wet grass clippings will clog the mower deck and collect in clumps on the lawn. Always wait for wet grass to dry before mowing.

Fallen Leaves

Your mower can be used to pick up fallen leaves for disposal. If using the mower to bag large amounts of fallen leaves, and not for mowing, set the cutting height adjustment levers so the front of the mower deck is one or two settings higher than the rear. To start, position the clip director knob in the #9 position (not quite full mulching). This setting will allow the leaves to be recirculated and recut until the particles are small enough to pass through the sliding door opening and into the grass bag. Depending on the size, type, and water content of the leaves, it may be necessary to open the sliding door to allow for best bagging results. Using the sliding door correctly will allow better grass bag filling resulting in less grass bag emptying. Be sure there are no obstacles, including rocks, hidden under the leaves.

If you want to mulch fallen leaves into your lawn, don't let the leaf cover get too deep before you begin. For best results, start mulching while grass still shows through the leaf cover. In places where fallen leaves completely cover the grass, remove the leaves by raking, or use the grass bag, so your mower can pick them up for disposal. Position the clip director knob in the MULCH position.

Clogged Mower Deck

Before clearing a clogged mower deck, stop the engine and turn the fuel valve to the OFF position. With the spark plug cap disconnected, tilt the mower so the air cleaner side is up.

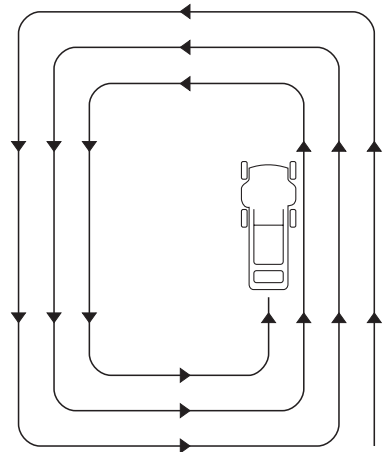
Clear a clogged deck with a stick, not your hands.

Mowing Patterns

Your Honda mower will work most efficiently if you use the following mowing patterns as much as possible. Mower deck and equipment design, and the direction in which the blade rotates, cause these mowing patterns to give the best results.

Mulching

Use a counterclockwise mowing pattern when the clip director knob is in the full MULCH position. If the lawn has an irregular shape, or many obstacles, divide it into sections where you can use counterclockwise mowing patterns.



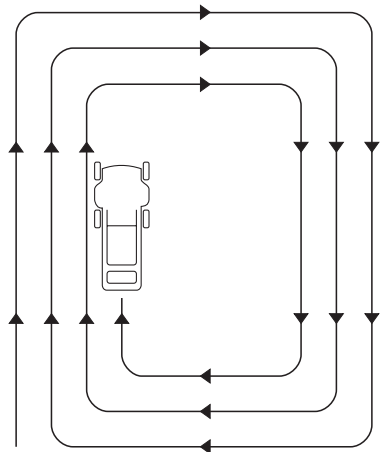
MULCHING PATTERN

Bagging

Use a clockwise mowing pattern. This will give the best clip director and bagging performance, leaving the least amount of clippings on the lawn.

Rear-Discharge Mowing

Remove the grass bag and close the discharge guard. Adjust the clip director knob to the desired setting and begin mowing in a clockwise mowing pattern. If the lawn has an irregular shape, or many obstacles, divide it into sections.



BAGGING & REAR-DISCHARGE PATTERN

SERVICING YOUR LAWN MOWER

THE IMPORTANCE OF MAINTENANCE

Good maintenance is essential for safe, economical, and trouble-free operation. It will also help reduce air pollution.

WARNING

Improper maintenance, or failure to correct a problem before operation, can cause a malfunction in which you can be seriously hurt or killed.

Always follow the inspection and maintenance recommendations and schedules in this owner's manual.

To help you properly care for your mower, the following pages include a maintenance schedule, routine inspection procedures, and simple maintenance procedures using basic hand tools. Other service tasks that are more difficult, or require special tools, are best handled by professionals and are normally performed by a Honda technician or other qualified mechanic.

The maintenance schedule applies to normal operating conditions. If you operate your mower under severe conditions, such as sustained high-load or high-temperature operation, or use in unusually wet or dusty conditions, consult your servicing dealer for recommendations applicable to your individual needs and use.

Maintenance, replacement, or repair of the emission control devices and systems may be performed by any engine repair establishment or individual, using parts that are “certified” to EPA standards.

MAINTENANCE SAFETY

Some of the most important safety precautions follow. However, we cannot warn you of every conceivable hazard that can arise in performing maintenance. Only you can decide whether or not you should perform a given task.

WARNING

Failure to properly follow maintenance instructions and precautions can cause you to be seriously hurt or killed.

Always follow the procedures and precautions in this owner's manual.

Safety Precautions

- Make sure the engine is off before you begin any maintenance or repairs. This will eliminate several potential hazards:
 - **Carbon monoxide poisoning from engine exhaust.**
Be sure there is adequate ventilation whenever you operate the engine.
 - **Burns from hot parts.**
Let the engine and exhaust system cool before touching.
 - **Injury from moving parts.**
Do not run the engine unless instructed to do so.
- Read the instructions before you begin, and make sure you have the tools and skills required.
- To reduce the possibility of fire or explosion, be careful when working around gasoline. Use only a nonflammable solvent, not gasoline, to clean parts. Keep cigarettes, sparks, and flames away from all fuel-related parts.

Remember that an authorized Honda servicing dealer knows your mower best and is fully equipped to maintain and repair it.

To ensure the best quality and reliability, use only new, genuine Honda parts or their equivalents for repair and replacement.

SERVICING YOUR LAWN MOWER

MAINTENANCE SCHEDULE

ITEM Perform at every indicated interval		REGULAR SERVICE PERIOD						
		Before each use	First month or 5 hours	First 25 hours	Every 50 hours	Every 100 hours	Every 150 hours	See page
Blades	Inspect condition	O						35
	Check bolt torque	O						37
Grass bag	Check	O						38
Engine oil	Check	O						39
	Change		O		O (1)			40
Air cleaner	Check	O						41
	Clean			O (1)	O (1)			
	Replace filter						O	
Spark plug	Check-Adjust					O		42
	Replace						O	
Spark arrester (optional equipment)	Clean-Inspect					O		44
Valve clearance	Check-Adjust						O (2)	–
Throttle cable	Adjust					O (2)		–
Pinion gears	Grease					O (1,2)		–
Idle speed	Check-Adjust						O (2)	–
Blade control	Check operation					O		45
	Adjust cable			O		O		
Drive clutch	Adjust cable			O		O		46
Combustion chamber	Clean	After every 250 hours (2)						–
Fuel system	Clean tank						O (2)	–
	Check line	Every 2 years [replace if necessary] (2)						–
Battery (HRX217HMA only)	Charge	Before prolonged storage and at the beginning of the mowing season (3)						50

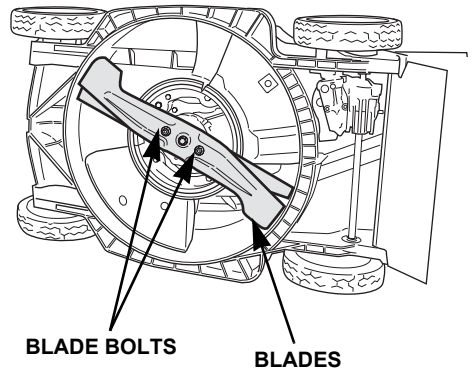
- (1) Service more frequently when used in dusty areas.
- (2) These items should be serviced by an authorized Honda servicing dealer, unless you have the proper tools and are mechanically proficient. Refer to the Honda shop manual for service procedures.
- (3) The HRX217HMA model requires the battery to be charged for 20-24 hours before and after winter storage.

Failure to follow this maintenance schedule could result in non-warrantable failures.

BLADES

Inspection

1. Move the fuel valve to the OFF position (page 8) and disconnect the spark plug cap from the spark plug (page 42).
2. Tilt the mower to the right, so the carburetor side is up. This will help to prevent fuel leakage and hard starting.
3. Inspect blades for wear and damage.



WARNING

A worn, cracked, or damaged blade can break, and pieces of the damaged blade can become dangerous projectiles.

Thrown objects can cause serious injury.

Inspect the blade regularly, and do not operate the mower with a worn or damaged blade.

A dull blade can be sharpened, but a blade that is excessively worn, bent, cracked, or otherwise damaged must be replaced. A worn or damaged blade can break, causing blade pieces to be thrown from the mower.



NORMAL



**EXCESSIVELY
WORN**



BENT



CRACKED

If the blades are found to be bent, take the lawn mower to an authorized Honda servicing dealer for inspection.

4. A torque wrench must always be used when installing the blades. Check that the blade bolts are tight (page 37).

SERVICING YOUR LAWN MOWER

Blade Removal and Installation

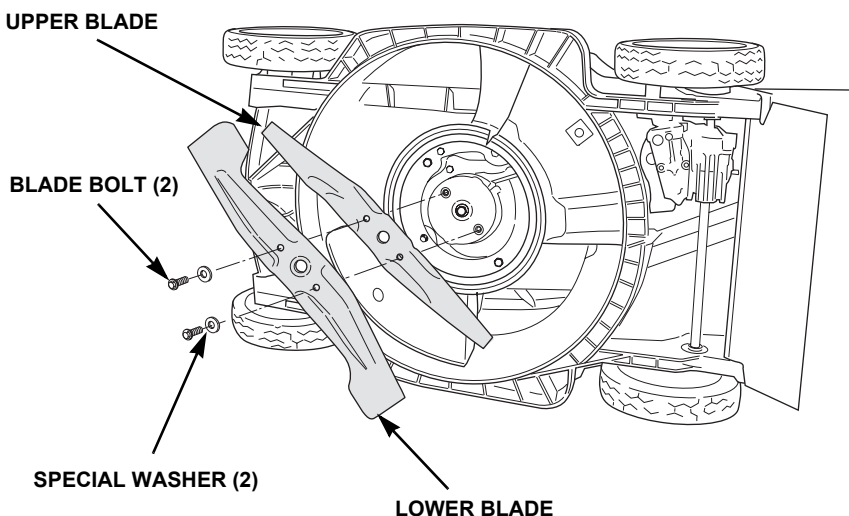
If you remove the blades for sharpening or replacement, you will need a torque wrench for installation. Wear heavy gloves to protect your hands.

BLADE SHARPENING: To avoid weakening the blades, or causing imbalance or poor cutting, the blades should be sharpened by trained staff at an authorized Honda servicing dealer.

BLADE REPLACEMENT: Use genuine Honda replacement blades or their equivalent (page 73).

Blade Removal

1. Turn the fuel valve OFF. Disconnect the spark plug cap (see page 42), then tilt the mower to the right side, so the carburetor side is up. This will help to prevent fuel leakage and hard starting due to carburetor flooding.
2. Remove the two blade bolts with a 14 mm socket wrench. Use a wooden block to prevent the blades from turning when removing the bolts. Remove the blades.



SERVICING YOUR LAWN MOWER

Blade Installation

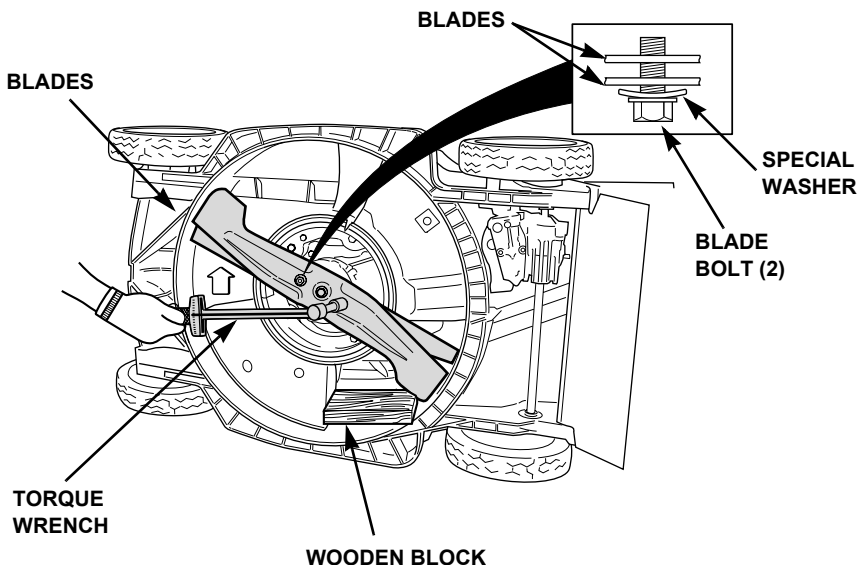
1. Clean dirt and grass from around the blade mounting area.
2. Install the blades using the two blade bolts and special washers as shown. Be sure to install the special washers with the concave side toward the blades and the convex side toward the bolts.

The blade bolts and washers are specially designed for this application. When replacing bolts and washers, use only genuine Honda replacement parts.

3. Tighten the blade bolts with a torque wrench. Use a wooden block to prevent the blades from turning when tightening the bolts.

Blade bolt torque: 36 ~ 43 ft-lb; 5.0 ~ 6.0 kg-m (49 ~ 59 N·m)

If you do not have a torque wrench, have an authorized Honda servicing dealer tighten the blade bolts before you use the mower. If the blade bolts are overtightened, they could break. If the blade bolts are not tightened enough, they could loosen or come out. In either case, it would be possible for the blades to fly off while you are operating the mower.



SERVICING YOUR LAWN MOWER

GRASS BAG CLEANING AND REPLACEMENT

Grass Bag Cleaning

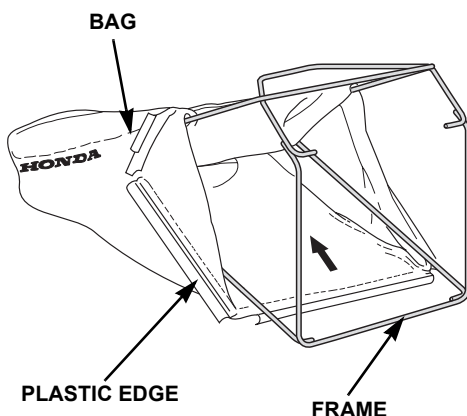
Wash the bag with a garden hose, and allow it to dry completely before use; a wet bag will clog quickly.

Grass Bag Replacement

Replace a worn or damaged bag with a Honda replacement bag or its equivalent (page 73).

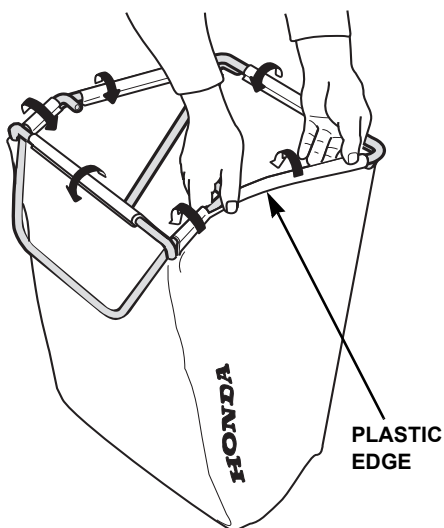
Bag Removal

1. Unclip the plastic edges of the bag from the frame.
2. Remove the bag from the frame.



Bag Installation

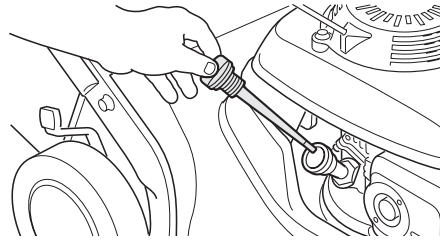
1. Insert the bag frame into the bag, as shown.
2. Clip the plastic edges of the bag onto the frame, as shown.



ENGINE MAINTENANCE

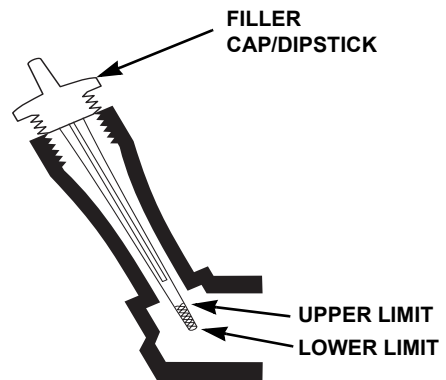
Engine Oil Level Check

1. Unscrew and remove the filler cap/dipstick and wipe it clean. Insert and remove the dipstick **without screwing it into the filler neck**. Check the oil level shown on the dipstick.
2. If the oil level is low, add oil to reach the upper limit mark on the dipstick. Do not overfill. If the engine is overfilled, the excess oil may get transferred to the air cleaner housing and air cleaner filter.



NOTICE

Running the engine with a low oil level can cause engine damage.

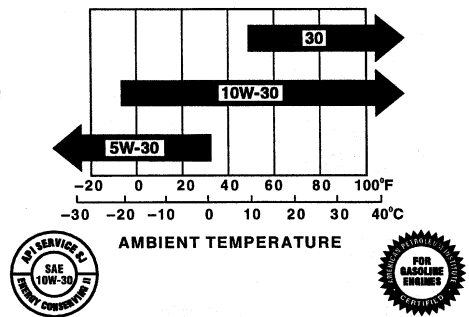


3. Screw in the filler cap/dipstick securely.

Engine Oil Recommendations

Oil is a major factor affecting performance and service life. Use 4-stroke automotive detergent oil.

SAE 10W-30 is recommended for general use. Other viscosities shown in the chart may be used when the average temperature in your area is within the recommended range.



The SAE oil viscosity and service classification are in the API label on the oil container. Honda recommends API SERVICE category SJ or later oil with the ILSAC "starburst" certification mark displayed on the container.

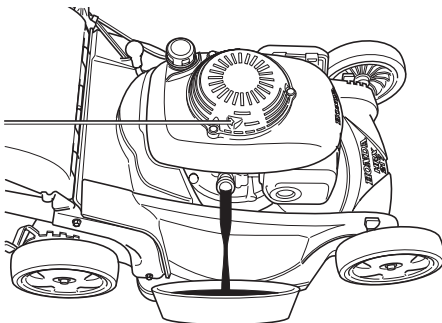
SERVICING YOUR LAWN MOWER

Engine Oil Change

Drain the used oil while the engine is warm. Warm oil drains quickly and completely.

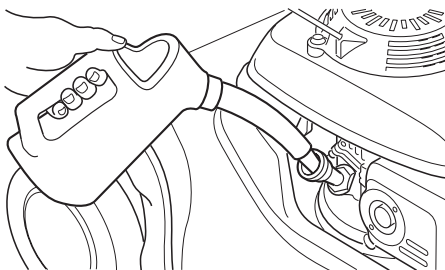
1. Turn the fuel valve OFF (page 8). This will reduce the possibility of fuel leakage.
2. Wipe the oil filler area clean, then remove the oil filler cap/dipstick.
3. Place a suitable container next to the mower to catch the used oil, then tilt the mower on its right side.

The used oil will drain through the filler neck. Allow the oil to drain completely.



Please dispose of used motor oil and the containers in a manner that is compatible with the environment. We suggest you take it in a sealed container to your local recycling center or service station for reclamation. Do not throw it in the trash, pour it on the ground or down a drain.

4. Fill with the recommended oil. Do not overfill. Allow a couple of minutes for the oil to settle in the engine, then measure the oil level as shown on page 39.



NOTICE

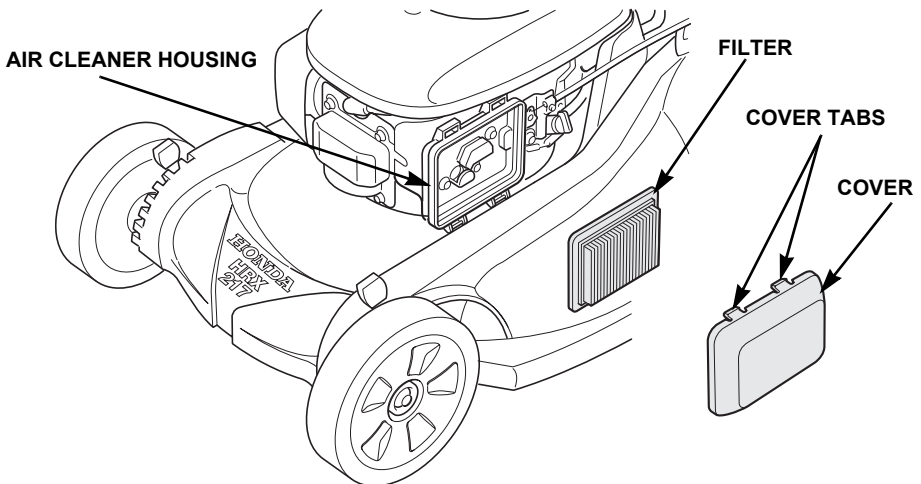
Using nondetergent oil can shorten the engine's service life, and using 2-stroke oil can damage the engine.

Air Cleaner Service

A dirty air filter will restrict air flow to the carburetor, reducing engine performance. If you operate the mower in very dusty areas, clean the air filter more often than specified in the MAINTENANCE SCHEDULE (page 34).

NOTICE

Operating the engine without an air filter, or with a damaged filter, will allow dirt to enter the engine, causing rapid engine wear. This type of damage is not covered by the Distributor's Limited Warranty (page 75).



1. Press down on the cover tabs and remove the cover.
2. Remove the filter from the air cleaner housing.
3. Inspect the filter, and replace it if damaged.
4. Clean the filter by tapping the filter several times on a hard surface to remove dirt, or blow compressed air (not exceeding 30 psi [207 kPa]) through the filter from the inside. Never try to brush off dirt; brushing will force dirt into the fibers.
5. Wipe dirt from the inside of the air cleaner housing and cover, using a moist rag. Be careful to prevent dirt from entering the air duct that leads to the carburetor.
6. Reinstall the filter and cover.

SERVICING YOUR LAWN MOWER

Spark Plug Service

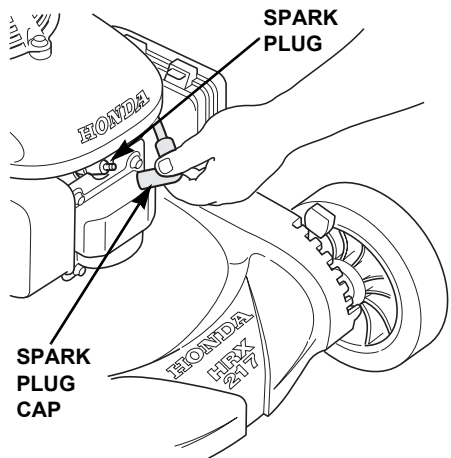
RECOMMENDED SPARK PLUGS	REGULAR	RESISTOR*
NGK	BP6ES	BPR6ES
DENSO	W20EP-U	W20EPR-U
*Resistor spark plugs reduce interference with radio and TV reception.		

NOTICE

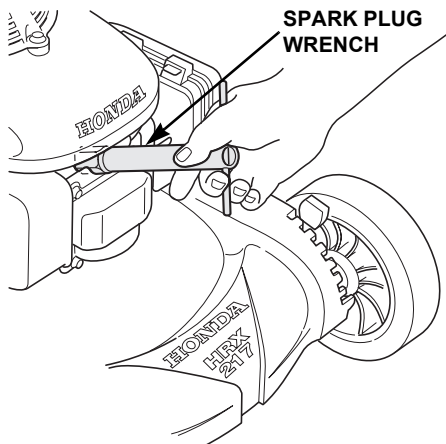
Incorrect spark plugs can cause engine damage.

For good performance, the spark plug must be properly gapped and free of deposits.

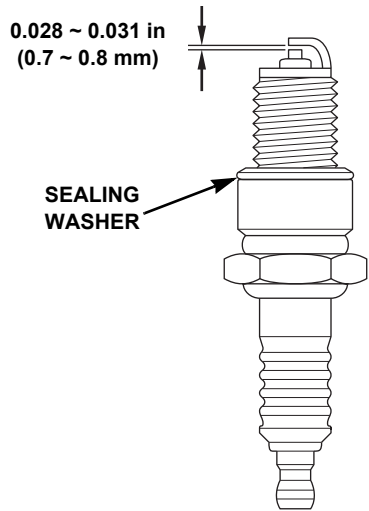
1. Disconnect the spark plug cap and remove any dirt from around the spark plug area.



2. Remove the spark plug with a 13/16 in (21 mm) spark plug wrench.
3. Inspect the spark plug. Replace it if the electrodes are worn, or if the insulator is cracked or chipped.



4. Measure the spark plug electrode gap with a suitable gauge. The gap should be 0.028 ~ 0.031 in (0.7 ~ 0.8 mm). Correct the gap, if necessary, by carefully bending the side electrode.
5. Install the spark plug carefully, by hand, to avoid cross-threading.
6. After the spark plug seats, tighten with a 13/16 in (21 mm) spark plug wrench to compress the washer.



If reinstalling the old spark plug, tighten 1/8 to 1/4 turn after the spark plug seats.

If installing a new spark plug, tighten 1/2 turn after the spark plug seats to compress the washer.

NOTICE

*A loose spark plug can overheat and damage the engine.
Overtightening the spark plug can damage the threads in the cylinder head.*

7. Install the spark plug cap on the spark plug.

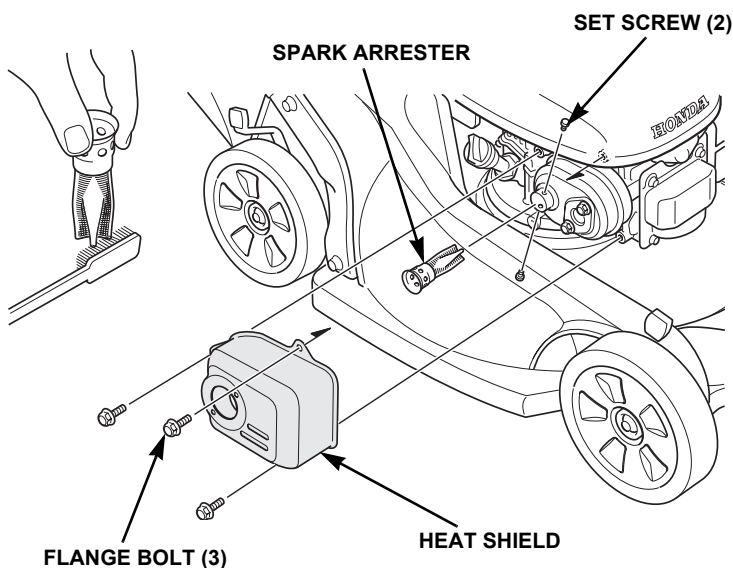
SERVICING YOUR LAWN MOWER

Spark Arrester Service (optional equipment)

Your lawn mower engine is not factory-equipped with a spark arrester. In some areas, it is illegal to operate an engine without a spark arrester. Check local laws and regulations. An optional USDA approved spark arrester is available from an authorized Honda servicing dealer.

The spark arrester must be serviced every 100 hours to keep it functioning as designed.

1. Allow the engine to cool and disconnect the spark plug cap to prevent accidental starting.
2. Remove the three flange bolts and the heat shield. Remove the two set screws and the spark arrester from the muffler.
3. Check for carbon deposits on the spark arrester and the exhaust port. Brush carbon deposits away. Be careful to avoid damaging the spark arrester screen.
4. Installation is the reverse of removal. Tighten all hardware securely.
5. Reconnect the spark plug cap.

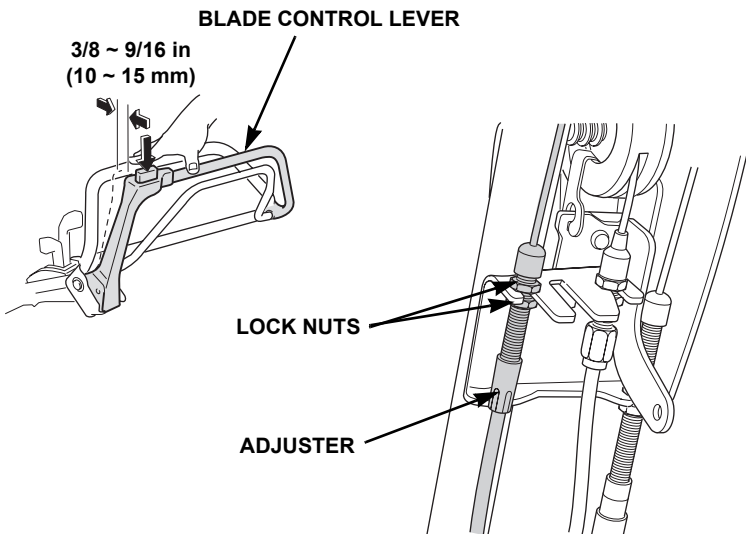


CONTROL CABLE ADJUSTMENTS

Blade Control Lever Adjustment

1. Push the button down on the blade control lever and measure free play at the top of lever.
Free play should be $\frac{3}{8}$ ~ $\frac{9}{16}$ in (10 ~ 15 mm). If adjustment is necessary:
2. Loosen the lock nuts with a 10 mm wrench, and move the adjuster up or down as required.
3. Tighten the lock nuts and recheck free play.
4. Start the engine outdoors. Move the throttle to FAST. Operate the blade control lever. The blades should engage when you push the lever forward and the blades should stop quickly when the lever is released.

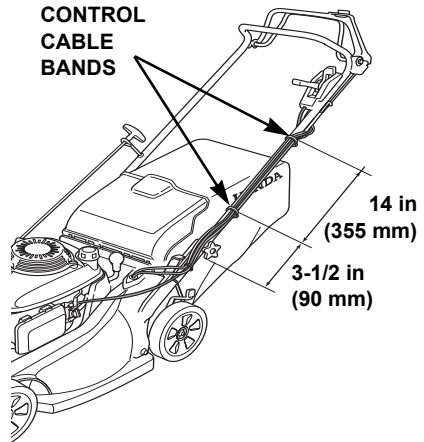
If the blades do not start or stop as it should with the correct cable adjustment, take the mower to an authorized Honda servicing dealer for repair.



SERVICING YOUR LAWN MOWER

Drive Clutch Cable Adjustment

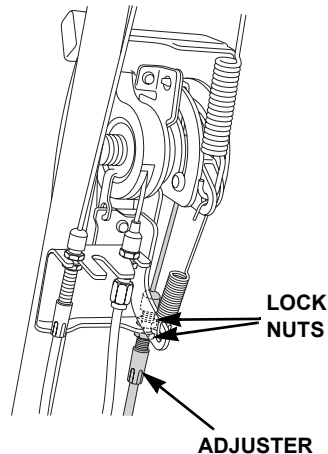
1. With the engine stopped, position the control cable bands as shown.
2. Pull the shift lever all the way back to the neutral position.
3. Start the engine and move the throttle lever to the FAST position.
4. Engage the drive clutch lever and confirm the following:
 - a. Mower does not self-propel.
 - b. Mower begins to self-propel or creeps very slowly forward when the shift lever is moved one notch forward.



If the mower does not operate as outlined above, go to step 5. If the mower does operate as outlined above, adjustment is not required.

5. Loosen the top and bottom drive clutch cable lock nuts with a 10 mm wrench. Move the adjuster up or down, as required, until the mower operates as outlined in step 4. Tighten the lock nuts.

If the mower will not operate correctly, take the mower to an authorized Honda servicing dealer.

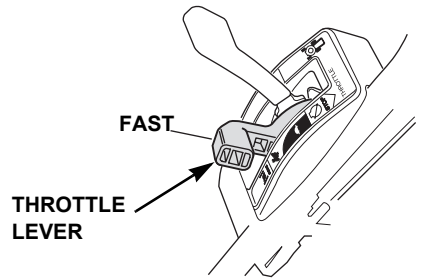


THROTTLE CABLE INSPECTION

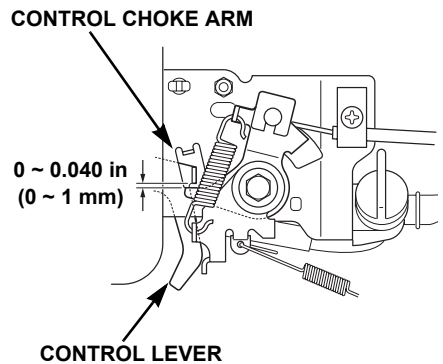
Throttle cable adjustment is necessary if the throttle lever does not operate the choke properly.

You can inspect choke operation by observing the movement of the choke arm, which is located on top of the carburetor.

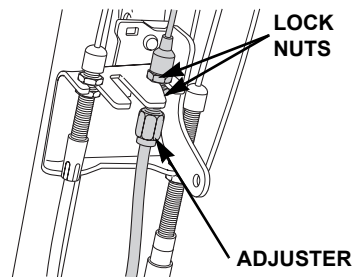
1. Move the throttle lever to the FAST position.
2. Remove the air cleaner cover (page 41).



3. Use a feeler gauge and measure the clearance between the control choke arm and the control lever. The clearance should be 0 ~ 0.040 in (0 ~ 1 mm).



4. To adjust the clearance, loosen the lock nuts with a 10 mm wrench. Move the adjuster up or down as required to obtain the proper clearance. Tighten the lock nuts.



SERVICING YOUR LAWN MOWER

FUEL SYSTEM

Refueling

Fuel tank capacity: 0.29 US gal (1.1 ℓ)

If the fuel level is low, refuel in a well-ventilated area with the engine stopped. If the engine has been running, allow it to cool first.

To refuel, remove the fuel tank cap, and fill the tank with gasoline to the bottom of the filler neck. Refuel carefully to avoid spilling fuel. Do not overfill. There should be no fuel in the filler neck. After refueling, tighten the fuel tank cap securely.

WARNING

Gasoline is highly flammable and explosive.

You can be burned or seriously injured when handling fuel.

- Stop the engine and keep heat, sparks, and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

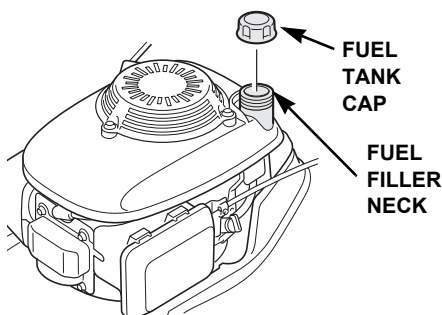
Never refuel the engine inside a building where gasoline fumes may reach flames or sparks. Keep gasoline away from appliance pilot lights, barbecues, electric appliances, power tools, etc.

Spilled fuel is not only a fire hazard, it causes environmental damage. Wipe up spills immediately.

Move at least 10 feet (3 meters) away from the fueling source and site before starting the engine.

NOTICE

Fuel can damage paint and plastic. Be careful not to spill fuel when filling your fuel tank. Damage caused by spilled fuel is not covered by the Distributor's Limited Warranty (page 75).



Fuel Recommendations

Use unleaded gasoline with a pump octane rating of 86 or higher.

This engine is certified to operate on unleaded gasoline with a pump octane rating of 86 or higher. Unleaded gasoline produces fewer engine and spark plug deposits and extends exhaust system life.

Never use stale or contaminated gasoline or an oil/gasoline mixture. Avoid getting dirt or water in the fuel tank.

Occasionally you may hear light “spark knock” or “pinging” (metallic rapping noise) while operating under heavy loads. This is no cause for concern.

If spark knock or pinging occurs at a steady engine speed, under normal load, change brands of gasoline. If spark knock or pinging persists, see an authorized Honda servicing dealer.

NOTICE

Running the engine with persistent spark knock or pinging can cause engine damage.

This is considered misuse, and the *Distributor's Limited Warranty* (page 75) does not cover parts damaged by misuse.

For oxygenated fuel information refer to page 67.

SERVICING YOUR LAWN MOWER

CHARGING THE BATTERY (HRX217HMA ONLY)

The lawn mower does not have an internal charging system. A plug-in charger is provided to recharge the battery. Use the plug-in charger after prolonged storage or anytime you notice a decrease in starter motor speed.

To assure maximum reliability, the battery should be recharged (boost charged) before prolonged storage and charged again at the beginning of the mowing season. Charge the battery in a dry, well-ventilated area where the temperature is moderate.

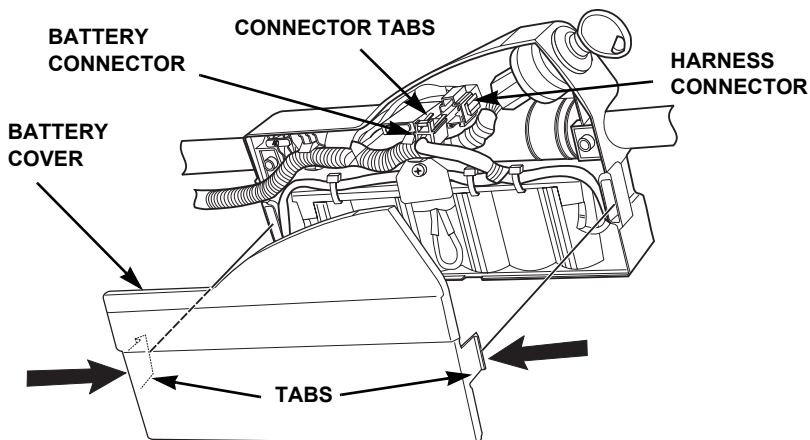
WARNING

A battery can explode if you do not follow the correct procedure, seriously injuring anyone nearby.

Keep all sparks, open flames, and smoking materials away from the battery.

WARNING: Battery posts, terminals and related accessories contain lead and lead compounds. **Wash hands after handling.**

1. Remove the battery cover by depressing the tabs located on the sides and releasing the tab on top of the battery cover.
2. Disconnect the battery connector by depressing the connector tab and pulling the battery connector from the harness connector, which is located inside the battery case, above the battery.

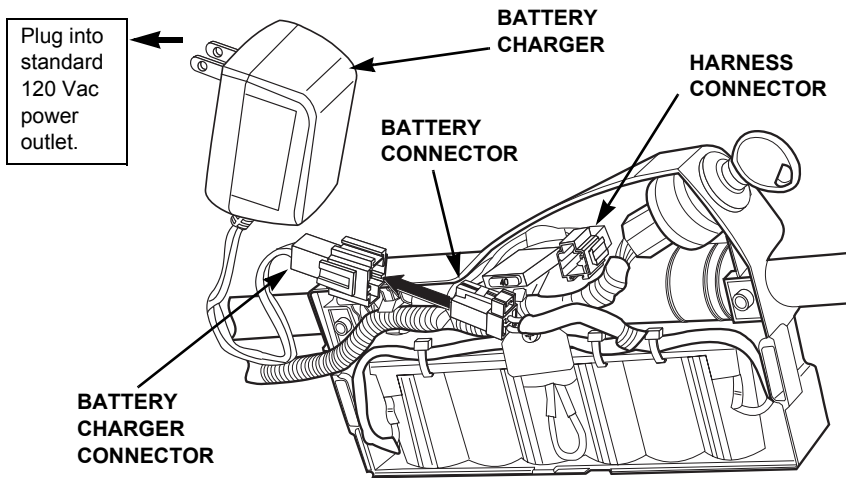


SERVICING YOUR LAWN MOWER

3. Connect the battery connector to the charger supplied with the mower.

NOTICE

Do not attempt to charge the battery with any charger other than the one supplied with the mower. Use of a charger other than the one supplied may result in damage to the electrical system or fire.



4. Plug the charger into a standard 120 Vac power outlet and let the battery charge for 20 to 24 hours. The charger may become slightly warm during charging. This is normal.

NOTICE

Do not charge the battery for more than 24 hours or the battery may be damaged. Disconnect the battery charger from the battery before storing the lawn mower.

5. After the battery has charged, disconnect the charger and reconnect the battery connector to the harness connector.
6. Replace the battery cover. Do not operate without the battery cover installed.

SERVICING YOUR LAWN MOWER

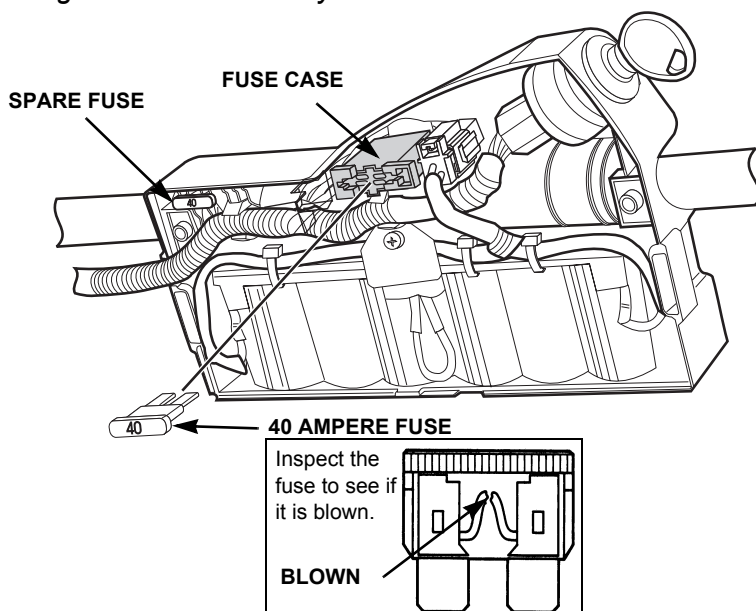
REPLACING THE FUSE (HRX217HMA ONLY)

The electric starter circuit and battery are protected by a 40 ampere fuse. If the fuse burns out, the electric starter will not operate. The engine can be started manually if the fuse burns out.

1. Remove the battery cover by depressing the tabs located on the sides and releasing the tab on top of the battery cover (see page 50).
2. Locate the fuse case above the battery.
3. Remove and inspect the fuse. If it is burned out, install the spare 40 ampere fuse provided with the mower as shown.

NOTICE

Never use a fuse with a rating other than 40 amperes. Serious damage to the electrical system or a fire can result.



If a frequent fuse failure occurs, it usually indicates a short circuit or an overload in the electrical system. Take the mower to an authorized Honda servicing dealer for repair.

STORAGE PREPARATION

Proper storage preparation is essential for keeping your lawn mower trouble free and looking good. The following steps will help to keep rust and corrosion from impairing your lawn mower's function and appearance, and will make the engine easier to start when you use the lawn mower again.

Cleaning

1. Wash the lawn mower, including the underside of the mower deck.

Engine

Wash the engine by hand, and be careful to prevent water from entering the air cleaner.

NOTICE

- *Using a garden hose or pressure washing equipment can force water into the air cleaner. Water in the air cleaner will soak the paper filter and can enter the carburetor or engine cylinder, causing damage.*
- *Water contacting a hot engine can cause damage. If the engine has been running, allow it to cool for at least half an hour before washing.*

Mower Deck

If using a garden hose or pressure washing equipment to clean the mower deck, be careful to avoid getting water into controls and cables, or anywhere near the engine air cleaner or muffler opening.

Before washing the underside of the mower deck, be sure the fuel valve is in the OFF position. Disconnect the spark plug cap. Rest the mower on its right side, so the carburetor side is up. This will help to prevent fuel leakage and hard starting due to carburetor flooding. Wear heavy gloves to protect your hands from the blades.

Grass Bag

Remove the bag from the mower, and wash it with a garden hose or pressure washing equipment. Allow the bag to dry completely before storage.

2. After washing the lawn mower, wipe dry all accessible surfaces.

STORAGE

3. With the mower in an upright position, open the clip director, start the engine outdoors, engage the blade control lever, and let the engine run until it reaches normal operating temperature to evaporate any water remaining on the engine.
4. Stop the engine and allow it to cool.
5. After the lawn mower is clean and dry, touch up any damaged paint (touch-up paint part numbers are on page 73), and coat other areas that may rust with a light film of oil. Lubricate the control cable cores with a silicone spray lubricant (page 73).

Charging the Battery (HMA type only)

To assure maximum reliability, the battery should be recharged (boost charged) both before and after prolonged storage. A plug-in charger is provided to recharge the battery (see page 50).

NOTICE

Do not charge the battery for more than 24 hours or the battery may be damaged. Disconnect the battery charger from the battery before storing the lawn mower.

Fuel

Gasoline will oxidize and deteriorate in storage. Old gasoline will cause hard starting, and it leaves gum deposits that clog the fuel system. If the gasoline in your mower deteriorates during storage, you may need to have the carburetor and other fuel system components, serviced or replaced.

The length of time that gasoline can be left in your fuel tank and carburetor without causing functional problems will vary with such factors as gasoline blend, your storage temperatures, and whether the fuel tank is partially or completely filled. The air in a partially filled fuel tank promotes fuel deterioration. Very warm storage temperatures accelerate fuel deterioration. Fuel deterioration problems may occur within a few months, or even less if the gasoline was not fresh when you filled the fuel tank.

The *Distributor's Limited Warranty* (page 75) does not cover fuel system damage or engine performance problems resulting from neglected storage preparation.

You can extend fuel storage life by adding a gasoline stabilizer that is formulated for that purpose, or you can avoid fuel deterioration problems by draining all the fuel from the fuel tank and carburetor.

Adding a Fuel Stabilizer

When adding a fuel stabilizer (page 73), fill the fuel tank with fresh gasoline. If only partially filled, air in the tank will promote fuel deterioration during storage. If you keep a container of gasoline for refueling, be sure that it contains only fresh gasoline.

1. Add fuel stabilizer following the manufacturer's instructions.
2. After adding a fuel stabilizer, run the engine outdoors for 10 minutes to be sure that the treated gasoline has replaced the untreated gasoline in the carburetor.
3. Turn the engine OFF and turn the fuel valve to the OFF position (page 26).

STORAGE

Draining the Carburetor and Fuel Tank

1. Make sure the fuel valve is OFF (page 8). Remove the carburetor drain bolt with a 10 mm wrench, and drain the fuel from the carburetor bowl into an approved container.

WARNING

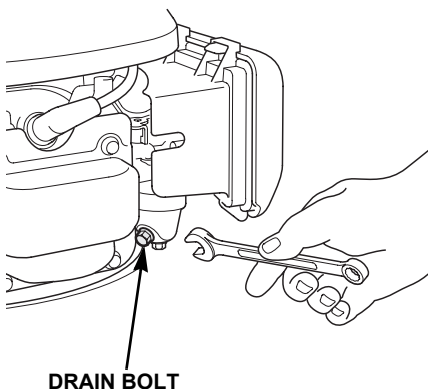
Gasoline is highly flammable and explosive.

You can be burned or seriously injured when handling fuel.

- Stop engine and keep heat, sparks, and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

If you only need to drain the carburetor, skip to step 3.

2. To drain the fuel tank, turn the fuel valve ON (page 8). This will allow fuel in the fuel tank to drain out through the carburetor bowl.
3. After the fuel is completely drained, reinstall the drain bolt.



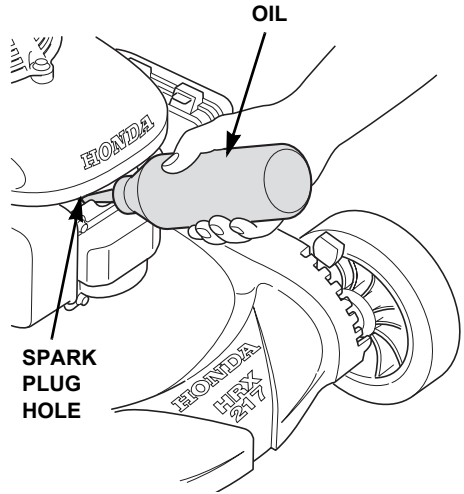
Engine Oil

Change the engine oil (page 40).

Engine Cylinder

Remove the spark plug (page 42). Pour a tablespoon (5 ~ 10 cc) of clean engine oil into the cylinder. Pull the starter rope several times to distribute the oil in the cylinder. Reinstall the spark plug.

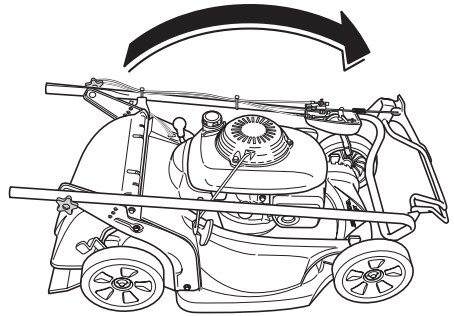
Pull the starter rope slowly until resistance is felt then return the starter grip gently. This will close the valves so moisture can not enter the engine cylinder.



Handlebar Folding

The handlebar can be folded for storage or transport by loosening the handlebar locking knobs.

1. Remove the grass bag. You can place it on top of the engine, with the bag opening to the front.
2. Loosen the handlebar locking knobs. Spread the handlebar struts to release the locating pins, then swing the handlebar forward. Prevent the cables from getting pinched or kinked.



When unfolding the handlebar, be sure to tighten the locking knobs to secure the handlebar in the mowing position.

STORAGE

PLACING IN STORAGE

If your mower will be stored with gasoline in the fuel tank and carburetor, it is important to reduce the hazard of gasoline vapor ignition. Select a well-ventilated storage area away from any appliance that operates with a flame, such as a furnace, water heater, or clothes dryer. Also avoid any area with a spark-producing electric motor, or where power tools are operated.

If possible, avoid storage areas with high humidity, because that promotes rust and corrosion.

Make sure the fuel valve is in the OFF position to reduce the possibility of fuel leakage.

Place the mower with its wheels on a level surface. Tilting can cause fuel or oil leakage.

The handlebar can be folded for compact storage (page 57).

With the engine and exhaust system cool, cover the mower to keep out dust. A hot engine and exhaust system can ignite or melt some materials. Do not use sheet plastic as a dust cover. A nonporous cover will trap moisture around the mower, promoting rust and corrosion.

REMOVING FROM STORAGE

Check your mower as described in *BEFORE OPERATION* (page 12).

If the fuel was drained during storage preparation, fill the tank with fresh gasoline. If you keep a container of gasoline for refueling, be sure that it contains only fresh gasoline. Gasoline oxidizes and deteriorates over time, causing hard starting.

If the cylinder was coated with oil during storage preparation, the engine will smoke briefly at startup. This is normal.

Electric Start Type (HMA)

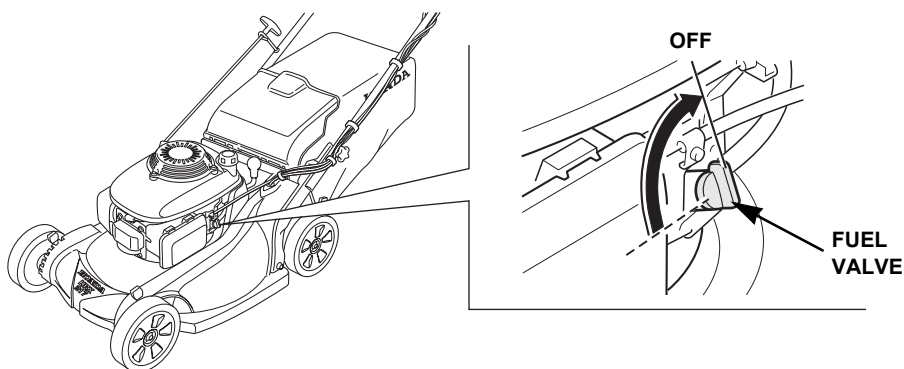
At the beginning of the mowing season, charge the battery for 24 hours before using the electric starter (see page 50).

TRANSPORTING

BEFORE LOADING

Stop the engine (see page 26) and allow it to cool for at least 15 minutes before loading the mower on the transport vehicle. A hot engine and exhaust system can burn you and can ignite some materials.

1. Turn the fuel valve to the OFF position. This will prevent carburetor flooding and reduce the possibility of fuel leakage.



2. If installed, remove the grass bag.

LOADING AND UNLOADING

If a suitable loading ramp is not available, two people should lift the mower on and off the transport vehicle while holding the mower level.

Position the mower so all four wheels are on the bed of the transport vehicle. Tie the mower down with rope or straps, and block the wheels. Keep the tie-down rope or straps away from the controls, adjustment levers, cables, and the carburetor.

The handlebar can be folded so the mower will take up less space (page 57).

Remove the key from the switch to avoid damage (HRX217HMA model only).

TAKING CARE OF UNEXPECTED PROBLEMS

Engine Will Not Start

Possible Cause	Correction
Fuel valve OFF	Turn the fuel valve ON (page 8).
Throttle lever in the wrong position	Move the throttle lever to the CHOKE position, unless the engine is warm (page 20).
Key switch OFF (HRX217HMA only)	Turn the key switch ON to use the recoil starter (page 22).
Out of fuel	Refuel (page 48).
Bad fuel; mower stored without treating or draining gasoline, or refueled with bad gasoline	Drain the fuel tank and carburetor (page 56). Refuel with fresh gasoline (page 48).
Spark plug faulty, fouled, or improperly gapped	Gap or replace the spark plug (page 42).
Spark plug wet with fuel (flooded engine)	Dry and reinstall the spark plug.
Battery discharged	Recharge the battery (page 50).
Fuse burned out	Replace the fuse (page 52).
Fuel filter clogged, carburetor malfunction, ignition malfunction, valves stuck, etc.	Take the mower to an authorized Honda servicing dealer for repair.

Loss of Power

Possible Cause	Correction
Throttle not set to FAST	Move the throttle to FAST (page 23).
Grass too tall or wet	Raise the cutting height (page 10), cut a narrower swath (page 29), use a slower ground speed (page 29), cut more frequently when the grass is dry, or move the clip director knob toward the BAG position (page 15).
Mower deck clogged	Clean out the mower deck (page 30).
Air filter clogged	Clean or replace the air filter (page 41).
Bad fuel; mower stored without treating or draining gasoline, or refueled with bad gasoline	Drain the fuel tank and carburetor (page 56). Refuel with fresh gasoline (page 48).
Fuel filter clogged, carburetor malfunction, ignition malfunction, valves stuck, etc.	Take the mower to an authorized Honda servicing dealer for repair.

TAKING CARE OF UNEXPECTED PROBLEMS

Vibration

Possible Cause	Correction
Grass and debris lodged under the mower deck.	Clean out the mower deck (page 30).
Blades loose, bent, damaged, or unbalanced by improper sharpening.	Tighten loose blades bolts (page 37). If blades are found to be bent or damaged, take the lawn mower to an authorized Honda servicing dealer for inspection (page 35).
Mechanical damage, such as a bent crankshaft.	Take the mower to an authorized Honda servicing dealer for repair.

Mowing and Bagging Problems

Possible Cause	Correction
Engine speed is too slow to cut well	Move the throttle lever to the FAST position (page 23).
Mower is moving too fast for lawn conditions	Shift to slow speed (page 25).
Cutting height adjustment levers set at different positions	Set all levers at the same cutting height position (page 19).
Grass bag overfilled or clogged	Empty the grass bag. Wash the grass bag if it is clogged with dirt (page 38).
Mower deck clogged	Clean out the mower deck (page 30).
Blades dull, worn, or damaged	Sharpen or replace the blades if necessary (page 36).
Wrong blades installed	Install correct blades (page 36).

SET-UP

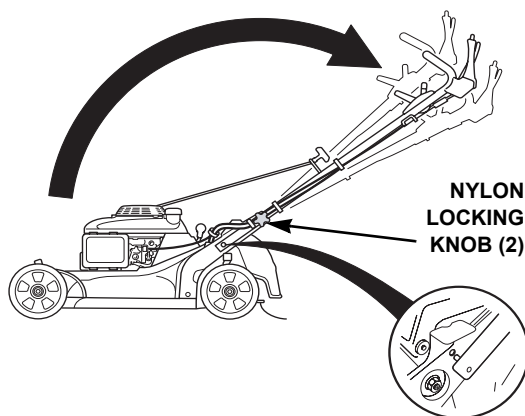
Unpacking

Remove all the cardboard from around the handlebar.

Handlebar Setup

Loosen the two knobs on the lower handlebar enough to raise the handlebar into the mowing position.

Select a desired handlebar height adjustment position and tighten the knobs securely.



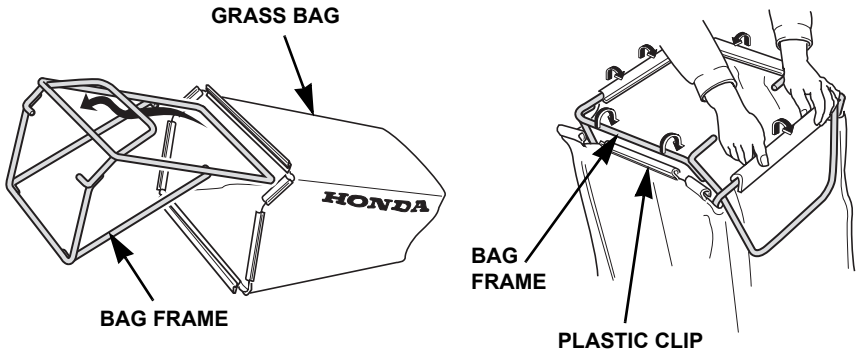
Battery (HRX217HMA only)

The mower is shipped with the battery disconnected. The battery is shipped with a partial charge and should be charged for 20 to 24 hours before use. Refer to “CHARGING THE BATTERY (HRX217HMA ONLY)” on page 50.

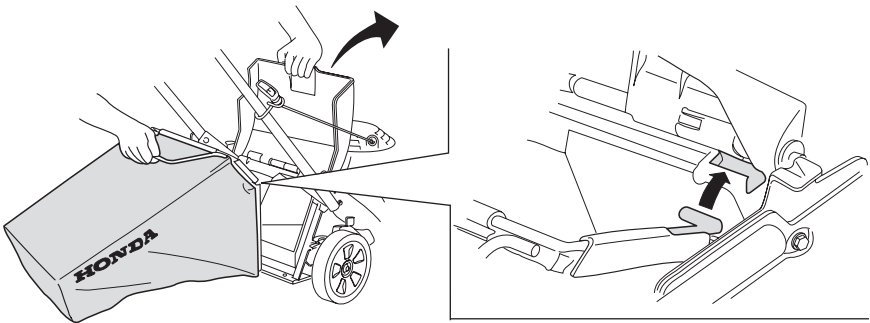
Install the key in the switch.

Grass Bag Assembly

Slide the grass bag frame into the grass bag and install the clips as shown.



Lift the the discharge guard and install the grass bag.



SET-UP

Engine Oil

The mower is shipped **WITHOUT OIL** in the engine.

A bottle of oil is included in the box with your mower. Add the entire contents of the oil bottle into the oil filler opening.

If not using the supplied oil, add enough SAE 10W-30 API service category SJ or later oil to bring the oil level between the upper and lower limit marks on the dipstick as shown.

Do not overfill engine with oil.

If the engine is overfilled, the excess oil may get transferred to the air cleaner housing and air filter.

After filling the engine with oil, remove the hang tag near the recoil starter grip which says *"The engine has no oil. A container of oil is in the shipping box."*

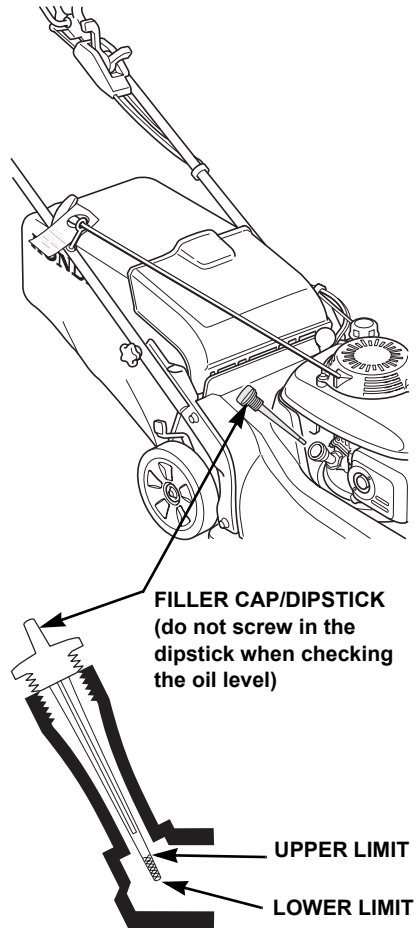
Fuel

Refer to page 48.

BEFORE OPERATION

Before using the lawn mower, all mower operators must read the following chapters and sections:

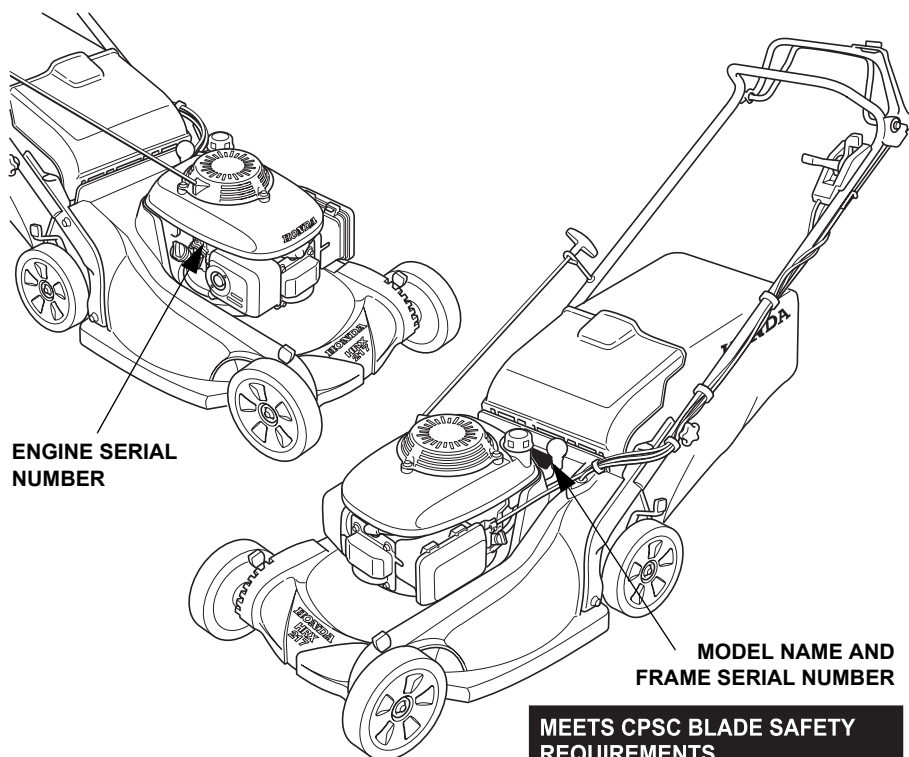
- **LAWN MOWER SAFETY** (page 4)
- **CONTROLS & FEATURES** (page 7)
- **BEFORE OPERATION** (page 12)
- **OPERATION** (page 20)
- **MAINTENANCE SCHEDULE** (page 34)



TECHNICAL & CONSUMER INFORMATION

TECHNICAL INFORMATION

Serial Number Locations



MEETS CPSC BLADE SAFETY REQUIREMENTS.

MODEL: HRX217HXA DH
SERIAL NO: MAGA — XXXXXXX

AMERICAN HONDA MOTOR CO., INC.
ALPHARETTA, GA 30005-8847

There are two serial numbers, one for the engine and one for the mower frame. Record the engine and frame serial numbers in the space below. You will need these serial numbers when ordering parts and when making technical or warranty inquiries (page 74).

Engine serial number: _____

Frame serial number: _____

Date of purchase: _____

TECHNICAL & CONSUMER INFORMATION

Carburetor Modification for High Altitude Operation

At high altitude, the standard carburetor air-fuel mixture will be too rich. Performance will decrease, and fuel consumption will increase. A very rich mixture will also foul the spark plug and cause hard starting. Operation at an altitude that differs from that at which this engine was certified, for extended periods of time, may increase emissions.

High altitude performance can be improved by specific modifications to the carburetor. If you always operate your lawn mower at altitudes above 5,000 feet (1,500 meters), have your servicing dealer perform this carburetor modification. This engine when operated at high altitude with the carburetor modifications for high altitude use will meet each emission standard throughout its useful life.

Even with carburetor modification, engine horsepower will decrease about 3.5% for each 1,000-foot (300-meter) increase in altitude. The effect of altitude on horsepower will be greater than this if no carburetor modification is made.

NOTICE

When the carburetor has been modified for high altitude operation, the air-fuel mixture will be too lean for low altitude use. Operation at altitudes below 5,000 feet (1,500 meters) with a modified carburetor may cause the engine to overheat and result in serious engine damage. For use at low altitudes, have your servicing dealer return the carburetor to original factory specifications.

Oxygenated Fuels

Some conventional gasolines are being blended with alcohol or an ether compound. These gasolines are collectively referred to as oxygenated fuels. To meet clean air standards, some areas of the United States and Canada use oxygenated fuels to help reduce emissions.

If you use an oxygenated fuel, be sure it is unleaded and meets the minimum octane rating requirement.

Before using an oxygenated fuel, try to confirm the fuel's contents. Some states/provinces require this information to be posted on the pump.

The following are the EPA-approved percentages of oxygenates:

ETHANOL — (ethyl or grain alcohol) 10% by volume

You may use gasoline containing up to 10% ethanol by volume. Gasoline containing ethanol may be marketed under the name "Gasohol".

MTBE — (Methyl Tertiary Butyl Ether) 15% by volume

You may use gasoline containing up to 15% MTBE by volume.

METHANOL — (methyl or wood alcohol) 5% by volume

You may use gasoline containing up to 5% methanol by volume, as long as it also contains cosolvents and corrosion inhibitors to protect the fuel system. Gasoline containing more than 5% methanol by volume may cause starting and/or performance problems. It may also damage metal, rubber, and plastic parts of your fuel system.

Fuel system damage or performance problems resulting from the use of an oxygenated fuel containing more than the percentages of oxygenates mentioned above are not covered under warranty.

TECHNICAL & CONSUMER INFORMATION

EMISSION CONTROL SYSTEM

Source of Emissions

The combustion process produces carbon monoxide, oxides of nitrogen, and hydrocarbons. Control of hydrocarbons and oxides of nitrogen is very important because, under certain conditions, they react to form photochemical smog when subjected to sunlight. Carbon monoxide does not react in the same way, but it is toxic.

Honda utilizes lean carburetor settings and other systems to reduce the emissions of carbon monoxide, oxides of nitrogen, and hydrocarbons.

The U.S., California Clean Air Act and Environment Canada

EPA, California and Canadian regulations require all manufacturers to furnish written instructions describing the operation and maintenance of emissions control systems.

The following instructions and procedures must be followed in order to keep the emissions from your Honda engine within the emissions standards.

Tampering and Altering

Tampering with or altering the emissions control system may increase emissions beyond the legal limit. Among those acts that constitute tampering are:

Removal or alteration of any part of the intake, fuel, or exhaust systems.

Altering or defeating the speed-adjusting mechanism to cause the engine to operate outside its design parameters.

Problems That May Affect Emissions

If you are aware of any of the following symptoms, have your engine inspected and repaired by your servicing dealer.

- Hard starting or stalling after starting
- Rough idle
- Misfiring or backfiring under load
- Afterburning (backfiring)
- Black exhaust smoke or high fuel consumption

Replacement Parts

The emissions control systems on your new Honda engine were designed, built, and certified to conform with EPA, California and Canadian emissions regulations. We recommend the use of genuine Honda parts whenever you have maintenance done. These original-design replacement parts are manufactured to the same standards as the original parts, so you can be confident of their performance. The use of replacement parts that are not of the original design and quality may impair the effectiveness of your emissions control system.

A manufacturer of an aftermarket part assumes the responsibility that the part will not adversely affect emissions performance. The manufacturer or rebuilder of the part must certify that use of the part will not result in a failure of the engine to comply with emissions regulations.

Maintenance

Follow the MAINTENANCE SCHEDULE on page 34. Remember this schedule is based on the assumption that your machine will be used for its designed purpose. Sustained high-load or high-temperature operation, or use in unusually wet or dusty conditions, will require more frequent service.

TECHNICAL & CONSUMER INFORMATION

Air Index

An Air Index Information hang tag/label is applied to engines certified to an emission durability time period in accordance with the requirements of the California Air Resources Board.

The bar graph is intended to provide you, our customer, the ability to compare the emissions performance of available engines. The lower the Air Index, the less pollution.

The durability description is intended to provide you with information relating the engine's emission durability period. The descriptive term indicates the useful life period for the engine's emission control system. See your *Emission Control System Warranty* (page 78) for additional information.

Descriptive Term	Applicable to Emissions Durability Period
Moderate	50 hours (0–65 cc) 125 hours (greater than 65 cc)
Intermediate	125 hours (0–65 cc) 250 hours (greater than 65 cc)
Extended	300 hours (0–65 cc) 500 hours (greater than 65 cc)

The Air Index Information hang tag/label must remain on the lawn mower until it is sold. Remove the hang tag before operating the lawn mower.

SPECIFICATIONS

Mower Model

HRX217HXA (manual start) HRX217HMA (electric start)	Honda rotary mower, grass bag, 21 inch mower deck, 6.5 hp, clip director, hydrostatic transmission, blade-brake clutch, USA market
--	--

Dimensions, Weights and Capacities

Overall Length [Cutting height adjusters set to 1-1/4 in (32 mm)]	Handlebar high: 67.0 in (1700 mm) Handlebar mid: 69.7 in (1770 mm) Handlebar in low: 71.9 in (1825 mm) Folded (no bag): 43.3 in (1100 mm)
Width at Mower Deck	23 in (585 mm)
Overall Height [Cutting height adjusters set to 1-1/4 in (32 mm)]	Handlebar high: 43.5 in (1105 mm) Handlebar mid: 40.0 in (1015 mm) Handlebar in low: 36.4 in (925 mm) Folded (no bag): 17.4 in (441 mm) 18 in (457 mm for HRX217HMA)
Dry Weight	93 lb (42.1 kg) (HRX217HXA) 104 lb (47.2 kg) (HRX217HMA)
Wheelbase [Cutting height adjusters set to 1-1/4 in (32 mm)]	26.7 in (678 mm)
Cutting Width	21 in (530 mm)
Approximate Cutting Height (7 adjustable positions)	3/4 in (20 mm), 1-1/4 in (32 mm), 2 in (46 mm), 2-1/2 in (62 mm), 3 in (75 mm), 3-1/2 in (88 mm), 4 in (100 mm)
Fuel Tank Capacity	0.29 US gal (1.1 ℓ)
Engine Oil Capacity	0.58 US qt (0.55 ℓ)
Grass Bag Capacity	23 US gal (2.5 bushels; 3.1 cu ft; 88 ℓ)

Transmission Design and Performance

Transmission Type	Hydrostatic, fluid-drive, infinitely variable speeds
Maximum Mower Ground Speed (engine at 3,100 rpm)	Maximum: 3.6 ~ 4.0 mph (1.6 ~ 1.8 m/s)

TECHNICAL & CONSUMER INFORMATION

Engine Design and Performance

Engine Model	GCV190
Engine Type	4-stroke, overhead-cam, single-cylinder, forced air-cooled
Displacement	11.4 cu in (187 cc)
Bore and Stroke	2.71 x 1.97 in (69 x 50 mm)
Compression Ratio	8.5:1
Ignition System	Transistorized magneto
Maximum Horsepower*	6.5 bhp (4.8 kW) at 3,600 rpm
Maximum Torque	9.74 ft-lb (13.2 N•m) at 2,500 rpm

* Horsepower rating (shown as maximum power output at 3,600 rpm) is in accordance with SAE J1995. Actual engine power will be lower. Engine power depends on accessories, operating speeds, operating conditions, and other variables.

Maintenance

Fuel	Unleaded gasoline with a pump octane rating of 86 or higher.	page 49
Engine Oil	SAE 10W-30, API SJ or later	page 39
Spark Plug Type	Regular: NGK BP6ES DENSO W20EP-U Resistor: NGK BPR6ES DENSO W20EPR-U	page 42
Maximum Governed Speed	2,950 ~ 3,100 rpm	Shop manual
Blade Control Cable	Adjust for 3/8 ~ 9/16 in (10 ~ 15 mm) free play at the blade control lever.	page 45
Drive Clutch Cable	Adjust for proper operation.	page 46
Throttle Cable	Adjust for clearance on the control arm.	page 47
Blade Bolt Torque	36 ~ 43 ft-lb (49 ~ 59 N•m)	page 37

Tuneup

Spark Plug Gap	0.028 ~ 0.031 in (0.7 ~ 0.8 mm)	page 43
Idle Speed (throttle lever at SLOW)	1,700 ± 150 rpm	Shop manual
Valve Clearance (cold)	Intake: 0.15 ± 0.04 mm Exhaust: 0.20 ± 0.04 mm	Shop manual
Other Specifications	No other adjustments needed.	

CONSUMER INFORMATION

Replacement Parts, Optional Equipment, and Service Items

Contact an authorized Honda servicing dealer to purchase any of these (or other) genuine, original Honda items for your lawn mower.

Replacement Parts

Item	Part Number	Notes
Spark plug	98079-56846	NGK (brand) BPR6ES
Air filter	17211-ZL8-003	Paper
Lower blade	72511-VH7-000	A torque wrench is required to install blades.
Upper blade	72531-VH7-000	
Grass bag	81320-VH7-000	Fabric bag only, no frame
Front wheel/tire	44710-VH7-000ZA	HRX217HXA only
	44710-VH7-B00ZA	HRX217HMA only
Rear wheel/tire	42710-VH7-000	
Battery	31500-VH7-B01	HRX217HMA only
Spare key	35110-772-013	HRX217HMA only

Optional Equipment

Item	Part Number	Notes
Spark arrester parts	18350-ZL8-000	Arrester and deflector
	18356-ZL8-000	ID Plate
	90055-ZE1-000	Screw (two required)
Mower deck guard kit	06761-VH7-000AH	Protects the side of the mower deck when mowing against curbs

Service Items

Item	Part Number	Notes
SAE 10W-30 engine oil	08207-10W30	
Silicone spray	08209-0001	Lubricates control cable cores
Fuel stabilizer	08732-0001	For long term storage
Matte black touch-up paint (aerosol can)	08707-NH105	For handlebar only

TECHNICAL & CONSUMER INFORMATION

Dealer Locator Information

To find an Authorized Honda Servicing Dealer anywhere in the United States:

Call (800) 426-7701

or visit our website:

www.hondapowerequipment.com/dealer

Customer Service Information

Honda Power Equipment dealership personnel are trained professionals. They should be able to answer any question you may have. If you encounter a problem that your dealer does not solve to your satisfaction, please discuss it with the dealership's management. The Service Manager or General Manager can help. Almost all problems are solved in this way.

If you are dissatisfied with the decision made by the dealership's management, contact the Honda Power Equipment Customer Relations Office. You can write:

American Honda Motor Co., Inc.

Power Equipment Division

Customer Relations Office

4900 Marconi Drive

Alpharetta, GA 30005-8847

Or telephone: (770) 497-6400 M-F, 8:30 a.m. - 8:00 p.m. ET

- When you write or call, please give us this information:
- Model and serial numbers (page 65)
- Name of the dealer who sold the lawn mower to you
- Name and address of the dealer who services your lawn mower
- Date of purchase
- Your name, address, and telephone number
- A detailed description of the problem

Honda Publications

These publications will give you additional information for maintaining and repairing your lawn mower.

Shop Manual

This manual covers complete maintenance and overhaul procedures. It is intended to be used by a skilled technician. Available through your Honda dealer or through Helm Inc. at (888) 292-5395 or visit www.hondapowerequipment.com/own.htm

Parts Catalog

This manual provides complete, illustrated parts lists, and is available through your Honda dealer.

Distributor's Limited Warranty

This warranty is limited to the following Honda Power Equipment products when distributed by American Honda Motor Co., Inc., Power Equipment Division, 4900 Marconi Drive, Alpharetta, Georgia 30005-8847.

PRODUCTS COVERED BY THIS WARRANTY	LENGTH OF WARRANTY* (from date of original retail purchase)	
	Noncommercial/ Nonrental	Commercial/Rental
Hand-Held Products (limited lifetime warranty on the HHT drive cable)	24 months	12 months/3 months
Masters, HRX, Harmony and Harmony II	24 months	3 months
HRX and Harmony Xenoy® Mower Decks	60 months	3 months
HRC Series 21-Inch Walk Behind Mowers	24 months	24 months engine, 12 months other components
FG110 Mini-Tiller	24 months	3 months
HS520 Snowthrower	24 months	24 months engine, 12 months other components
GC160, GCV160, GX160 GC190, GCV190, and GX190 Engines	24 months	24 months
WMP20X Centrifugal Pump	24 months	3 months

* Length of Warranty: Batteries supplied with applicable products as standard, original equipment are covered by this warranty for a period of 12 months (noncommercial use) or 3 months (commercial/rental use) from the date of original retail product purchase.

To Qualify For This Warranty:

The product must be purchased in the United States, Puerto Rico, or the U.S. Virgin Islands from American Honda or a dealer authorized by American Honda to sell those products. This warranty applies to first retail purchaser and each subsequent owner during the applicable warranty time period.

What American Honda Will Repair Or Replace Under Warranty:

American Honda will repair or replace, at its option, any part that is proven to be defective in material or workmanship under normal use during the applicable warranty time period. Warranty repairs and replacements will be made without charge for parts or labor. Anything replaced under warranty becomes the property of American Honda Motor Company, Inc. All parts replaced under warranty will be considered as part of the original product and any warranty on those parts will expire coincident with the original product warranty.

TECHNICAL & CONSUMER INFORMATION

To Obtain Warranty Service:

You must take the Honda Power Equipment product, accessory, replacement part, apparel or the power equipment on which the accessory or replacement part is installed, and proof of purchase, at your expense, to any Honda Power Equipment dealer in the United States, Puerto Rico, or the U.S. Virgin Islands who is authorized to sell that product, during the dealer's normal business hours. If you are unable to obtain warranty service, or are dissatisfied with the warranty service you receive, take the following steps: First, contact the owner of the dealership involved; normally this will resolve the problem. However, if you should require further assistance, write or call the Power Equipment Customer Relations Department of American Honda Motor Co., Inc.

American Honda Motor Co., Inc.
Power Equipment Customer Relations Dept.
4900 Marconi Drive
Alpharetta, GA 30005-8847 Telephone: (770) 497-6400

Exclusions:

This warranty does not extend to parts affected or damaged by accident and/or collision, normal wear, fuel contamination or deterioration, use in an application for which the product was not designed or any other misuse, neglect, incorporation or use of unsuitable attachments or parts, unauthorized alteration, or any causes other than defects in material or workmanship of the product.

The auger and paddle assemblies of snowthrowers, tiller tines of roto-tillers, mower blades and mower deck housings, are specifically not warranted against impact damage, including but not limited to, abrasive damage.

Disclaimer of Consequential Damage and Limitation of Implied Warranties:

American Honda disclaims any responsibility for loss of time or use of the product, transportation, commercial loss, or any other incidental or consequential damage. Any implied warranties are limited to the duration of this written limited warranty. Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusions and limitations may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

TECHNICAL & CONSUMER INFORMATION

Accessories, Replacement Parts, and Apparel Warranty

This warranty is limited to Honda Power Equipment parts, accessories and apparel when distributed by American Honda Motor Co., Inc., 4900 Marconi Drive, Alpharetta, Georgia 30005-8847

PRODUCTS COVERED BY THIS WARRANTY	LENGTH OF WARRANTY (from date of original retail purchase)	
	Noncommercial/Nonrental	Commercial/Rental
Accessories	12 months	3 months
Replacement Parts	6 months	3 months
Apparel	6 months	3 months

To Qualify for this Warranty:

1. The accessories, replacement parts, or apparel must be purchased from American Honda, or a dealer, distributor or distributor's dealer authorized by American Honda to sell those products in the United States, Puerto Rico, and the U.S. Virgin Islands.
2. You must be the first retail purchaser. This warranty is not transferable to subsequent owners.

What American Honda will Repair or Replace Under Warranty:

American Honda will repair or replace, at its option, any power equipment accessories, replacement parts, or apparel that are proven to be defective in material or workmanship under normal use during the applicable warranty time period. Anything replaced under warranty becomes the property of American Honda Motor Company, Inc. All parts replaced under warranty will be considered as part of the original product and any warranty on those parts will expire coincident with the original product warranty.

Accessories and replacement parts, installed by a dealer who is authorized by American Honda to sell them, will be repaired or replaced under warranty without charge for parts or labor. If installed by anyone else, accessories and replacement parts will be repaired or replaced under warranty without charge for parts, but any labor charges will be the responsibility of the purchaser. Apparel will be repaired or replaced under warranty without any charge.

To Obtain Warranty Service:

You must take the Honda Power Equipment accessory, replacement part, apparel or the power equipment on which the accessory or replacement part is installed, and proof of purchase, at your expense, to any Honda Power Equipment dealer in the United States, Puerto Rico, or the U.S. Virgin Islands who is authorized to service that product, during the dealer's normal business hours. If you are unable to obtain warranty service, or are dissatisfied with the warranty service you receive, take the following steps: First, contact the owner of the dealership involved; normally this will resolve the problem. However, if you should require further assistance, write or call the Power Equipment Customer Relations Department of American Honda Motor Co., Inc. Refer to page 74 for contact information.

Exclusions:

This warranty does not extend to accessories, parts, or apparel affected or damaged by accident and/or collision, normal wear, use in an application for which the product was not designed, or any other misuse, neglect, incorporation or use of unsuitable attachments or parts, unauthorized alteration, improper installation, or any causes other than defects in material or workmanship of the product.

Mower blades and mower deck housings, are specifically not warranted against impact damage, including but not limited to, abrasive damage.

Disclaimer of Consequential Damage and Limitation of Implied Warranties:

American Honda disclaims any responsibility for loss of time or use of the product, or the power equipment on which the product is installed, transportation, commercial loss, or any other incidental or consequential damage. Any implied warranties are limited to the duration of this written warranty. Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusions and limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

TECHNICAL & CONSUMER INFORMATION

Emission Control System Warranty

Your new Honda Power Equipment engine complies with the U.S. EPA, Environment Canada and State of California emission regulations. American Honda Motor Co., Inc. provides the emission warranty coverage for engines in the United States, and its territories. Honda Canada Inc. provides the emission warranty for engines in the 13 provinces and territories of Canada. In the remainder of this Emission Control System Warranty, American Honda Motor Company Inc. and Honda Canada Inc. will be referred to as Honda.

Your Warranty Rights And Obligations:

California

The California Air Resources Board and Honda are pleased to explain the emission control system warranty on your Honda Power Equipment engine. In California, new utility and lawn and garden equipment engines must be designed, built and equipped to meet the State's stringent anti-smog standards.

Other States, U.S. territories and Canada

In other areas of the United States and in Canada, your engine must be designed, built, and equipped to meet the U.S. EPA and Environment Canada emission standards for spark-ignited engines at or below 19 kilowatts.

All of the United States and Canada

Honda must warrant the emission control system on your power equipment engine for the period of time listed below provided there has been no abuse, neglect or improper maintenance of your power equipment engine. Where a warrantable condition exists, Honda will repair your power equipment engine at no cost to you including diagnosis, parts and labor.

Your emission control system may include such parts as the carburetor or fuel injection system, the ignition system, and catalytic converter. Also included may be hoses, connectors and other emission-related assemblies.

Manufacturer's Warranty Coverage:

The 1995 and later power equipment engines are warranted for two years. If any emission-related part on your engine is defective, the part will be repaired or replaced by Honda.

Owner's Warranty Responsibility:

As the power equipment engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual. Honda recommends that you retain all receipts covering maintenance on your power equipment engine, but Honda cannot deny warranty coverage solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the power equipment engine owner, you should however be aware that Honda may deny you warranty coverage if your power equipment engine or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.

You are responsible for presenting your power equipment engine to a Honda Power Equipment dealer as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should write or call the Honda office in your region.

American Honda Motor Co., Inc.
Power Equipment Customer Relations or
4900 Marconi Drive
Alpharetta, Georgia 30005-8847
Telephone: (770) 497-6400

Honda Canada Inc.
Power Equipment Customer Relations
715 Milner Avenue
Toronto, ON M1B 2K8
Telephone: (888) 946-6329

Warranty Coverage:

Honda power equipment engines manufactured after January 1, 1995 and sold in the State of California, and U.S. EPA certified engines manufactured on or after September 1, 1996 and sold in all of the United States, and Canadian certified engines manufactured on or after January 1, 2005 are covered by this warranty for a period of two years from the date of delivery to the original retail purchaser. This warranty is transferable to each subsequent purchaser for the duration of the warranty period.

Warranty repairs will be made without charge for diagnosis, parts or labor. All defective parts replaced under this warranty become the property of Honda. Warranted parts are listed under *Emission Control System Warranty Parts* on page 80. Normal maintenance items, such as spark plugs and filters, that are on the warranted parts list are warranted up to their required replacement interval only.

Honda is also liable for damages to other engine components caused by a failure of any warranted part during the warranty period.

Only Honda approved replacement parts may be used in the performance of any warranty repairs and must be provided without charge to the owner. The use of replacement parts not equivalent to the original parts may impair the effectiveness of your engine emission control system. If such a replacement part is used in the repair or maintenance of your engine, and an authorized Honda dealer determines it is defective or causes a failure of a warranted part, your claim for repair of your engine may be denied. If the part in question is not related to the reason your engine requires repair, your claim will not be denied.

To Obtain Warranty Service:

You must take your Honda Power Equipment engine or the product on which it is installed, along with your warranty registration card or other proof of original purchase date, at your expense, to any Honda Power Equipment dealer who is authorized by Honda to sell and service that Honda product during his normal business hours. Claims for repair or adjustment found to be caused solely by defects in material or workmanship will not be denied because the engine was not properly maintained and used.

If you are unable to obtain warranty service, or are dissatisfied with the warranty service you received, contact the owner of the dealership involved. Normally this should resolve your problem. However, if you require further assistance, write or call the Power Equipment Customer Relations Department of American Honda Motor Co., Inc. Refer to page 74 for contact information.

Exclusions:

Failures other than those resulting from defects in material or workmanship are not covered by this warranty. This warranty does not extend to emission control systems or parts which are affected or damaged by owner abuse, neglect, improper maintenance, misuse, misfueling, improper storage, accident and/or collision, the incorporation of, or any use of, any add-on or modified parts, unsuitable attachments, or the unauthorized alteration of any part.

This warranty does not cover replacement of expendable maintenance items made in connection with required maintenance services after the item's first scheduled replacement as listed in the maintenance section of the product owner's manual, such as: spark plugs and filters.

Disclaimer of Consequential Damage and Limitation of Implied Warranties:

American Honda Motor Co., Inc. and Honda Canada Inc. disclaim any responsibility for incidental or consequential damages such as loss of time or the use of the power equipment, or any commercial loss due to the failure of the equipment; and any implied warranties are limited to the duration of this written warranty. This warranty is applicable only where the California, U.S. EPA or Environment Canada Emission Control System Warranty regulation is in effect.

TECHNICAL & CONSUMER INFORMATION

Emission Control System Warranty Parts:

SYSTEMS COVERED BY THIS WARRANTY:	PARTS DESCRIPTION:
Fuel Metering	Carburetor assembly, (includes starting enrichment system), Engine temperature sensor, Engine control module, Fuel regulator, Intake manifold
Evaporative	Fuel hoses
Exhaust	Catalyst, Exhaust manifold
Air Induction	Air filter housing, Air filter element*, Crankcase breather tube
Ignition	Flywheel magneto, Ignition pulse generator, Crankshaft position sensor, Power coil, Ignition coil assembly, Ignition control module, Spark plug cap, Spark plug*
Miscellaneous Parts	Tubing, fittings, seals, gaskets, and clamps associated with these listed systems.

* Covered up to the first required replacement only. See the *Maintenance Schedule* on page 31.

INDEX

A

Accessories	73
Accessories warranty	77
Air Cleaner Service	41
Air Filter Part Number	73
Air Index	70
Altitude, High Altitude Operation	66

B

Bag, grass	38
Battery Charging	50
Before Operation	12
Blade	
Inspection	35
Installation	37
Part Numbers	73
Blade Control Lever	
Cable Adjustment	45
Operation	9

C

Cable Adjustments	
Blade Control Lever	45
Drive Clutch Lever	46
Capacities	71
Carburetor	
Draining	56
High Altitude Notes	66
Choke	20
Cleaning, Before Storage	53
Clip Direction	
Knob Adjustment	15
Rear Discharge	17
Sliding Door Position	16
Clogged Mower Deck	30
Controls & Features	7–10
Cutting Height	
Adjustment Levers	10
Recommendations	29
Cutting Width	29

D

Dealer locator information	74
Dimensions	71
Distributor's warranty	75
Drive Clutch Lever	
Cable Adjustment	46
Operation	24

E

Emission Control System	68
Emissions	
Warranty	78
Engine starting	20
Engine Switch	21
Ethanol	67

F

Filter	41
Fuel	
Additive	55
Capacity	71
Oxygenated Fuels	67
Recommendations	49
Tank Draining	56
Fuel Valve	
description	8
Fuse Replacement	52

G

Grass Bag	
Capacity	71
Cleaning	38
Inspection	18
Part Numbers	73
Removal and Installation	18
Replacement	38

H

Handlebar	
Folding	57
Height Adjustment	14
Height Adjustment	19

L

Leaves, Bagging	30
Loading	59

M

Maintenance Schedule	34
Methanol	67
Mower Deck Clogging	30
Mowing Tips	29–31
MTBE	67

N

NOTICE symbol	1
---------------------	---

INDEX

O

Oil

Capacity	71
Change	40
Level Check	39
Part Number	73
Recommended	39
Operation	20

P

Paint, Part Number	73
Parts, Replacement	69
Parts, Replacement & Optional	73

R

Replacement Parts	69
-------------------------	----

S

Safety

A few words	2
Information	4
Label Locations	6
Message Definitions	2
Safe Mowing Practices	27
Set-Up Instructions	62

Shift Lever

Description	10
Operation	25

Spark Arrester

Part Numbers	73
Service	44

Spark Plug

Part Number	73
Service	42

Specifications

Dimensions	71
Engine	72
Maintenance	72
Tuneup	72

Speed, Ground Speeds

71

Starting the Engine

20

Stopping the Engine

26

Storage

Placing in Storage	58
Preparation	53
Removing from Storage	58

T

Throttle	8
Throttle Lever	8
Cable Inspection	47
Operation	23
Troubleshooting	
Mowing and Bagging	61
Vibration	61
Tuneup Specifications	72

U

Unloading	59
-----------------	----

V

Valve Clearance	72
-----------------------	----

W

Warnings

2

Warranty

Accessories & parts	77
Distributor's	75
Emissions	78

Washing

Grass Bag	38
Mower	53

Web address

74

Weights

71

QUICK REFERENCE INFORMATION

Fuel	Type	Unleaded gasoline with a pump octane rating of 86 or higher (page 49)
Engine oil	Type	SAE 10W-30, API SJ or later (page 39)
Spark plug	Type	Regular: NGK BP6ES DENSO W20EP-U Resistor: NGK BPR6ES DENSO W20EPR-U
Maintenance	Before each use	Check engine oil (page 39) Check air cleaner (page 41)
	First 5 hours	Change engine oil (page 40)
	Subsequent	Refer to the Maintenance Schedule (page 34)
	Before and after each mowing season (HRX217HMA only)	Charge the battery (page 50)

HONDA

The Power of Dreams

31VH7H20
00X31-VH7-H200



Printed on
Recycled Paper



POM53618-C

IPC XXXXX.2006.04
PRINTED IN U.S.A.